JANUARY 20, 1945

Railway Age

Founded in 1856

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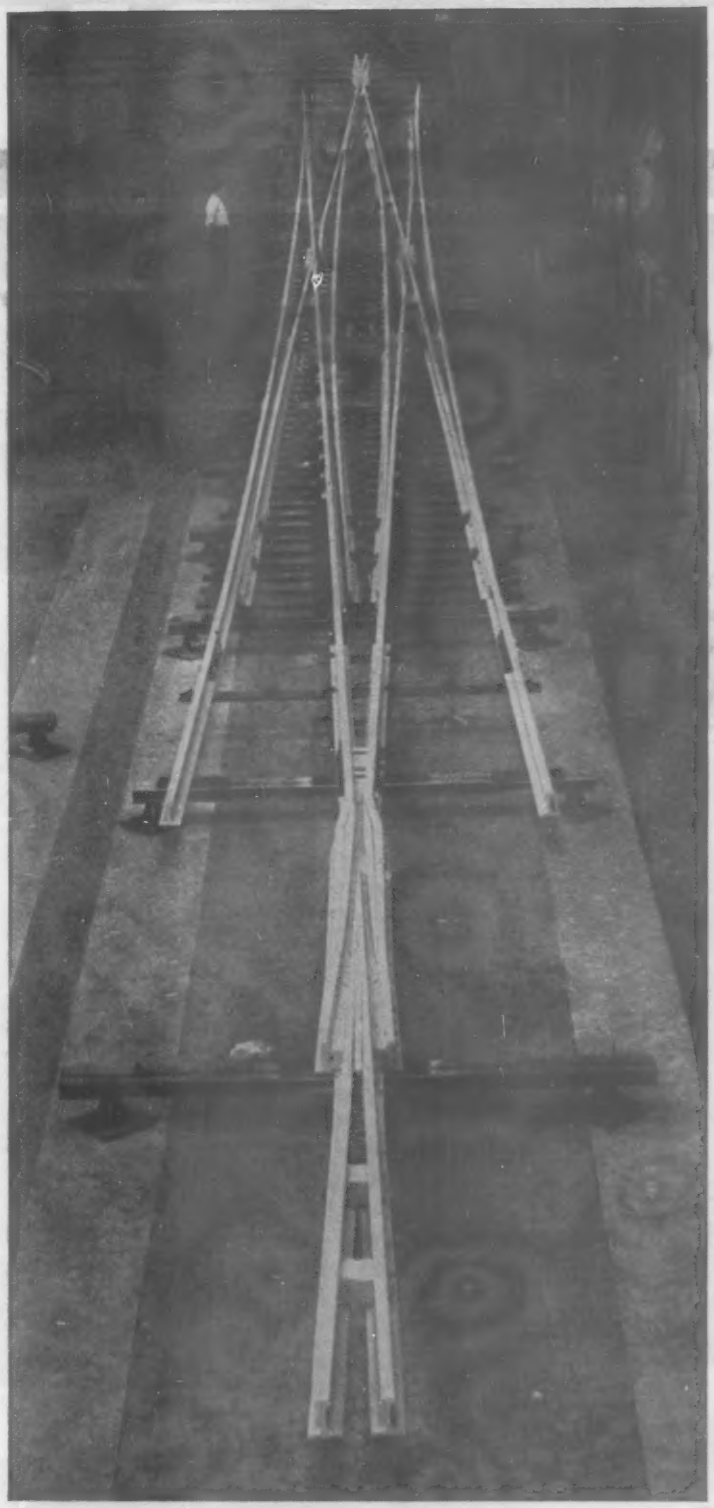


Another "First" by Bethlehem

Of special interest to railroad men is the No. 20 Movable-Point Double-Slip Crossing just completed in Bethlehem's Steelton plant. Custom-built for the Pennsylvania Railroad, it is the first of its kind ever constructed of the heaviest Tee-rail section with this acute angle.

The arrangement provides for four movements in each direction, and the train speeds through the crossing will be unusually high, in keeping with today's fast passenger and freight service. Using 152-pound rail, the assembly weighs roughly 53 tons, including frogs and guard rails. Its overall length is more than 239 feet.

As shown in the illustration, the job was completely assembled on the floor of the Steelton plant, where all details were thoroughly checked, all joints match-marked, etc. This slip crossing, the first unit of several under construction, will be placed in main-line service at Trenton, N. J.

Bethlehem provides complete facilities for the making, assembly, and inspection of every kind of trackwork, both standard and special . . . ranging from the small, simple type of job to the highly complicated layout pictured here. When ordering trackwork, specify the Bethlehem products listed below.

The crossing shown above uses 152-pound rail. At the left is a comparison between this rail and other popular Tee-rail sections.

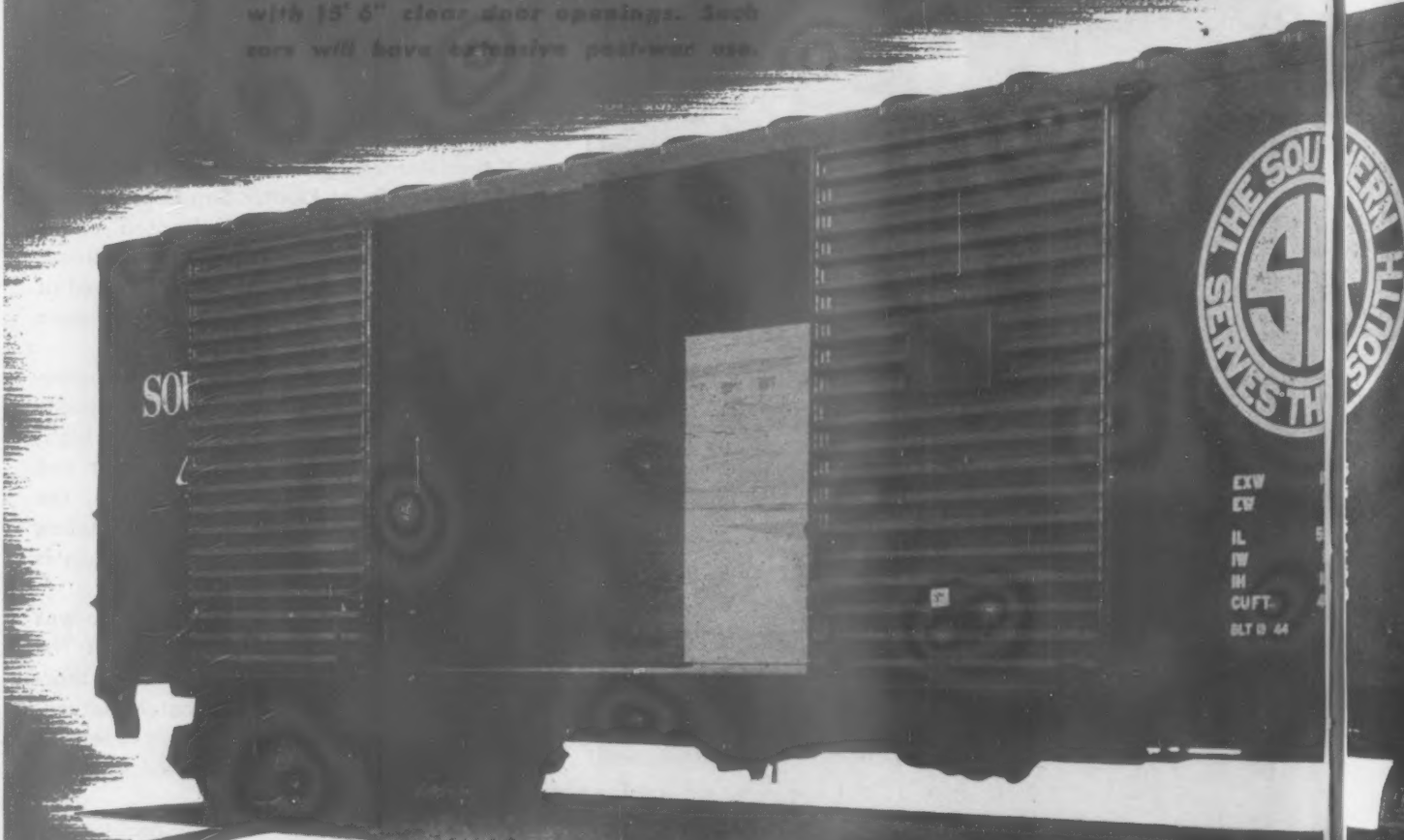
BETHLEHEM PRODUCTS FOR THE RAILROADS—ALLOY STEELS • BOILER AND FIREBOX PLATES • BRIDGES • CROSSINGS • FREIGHT CARS • FROGS • GAGE RODS • GUARD RAILS • LOCOMOTIVE FORGINGS • MAYARI R (high-strength, low-alloy steel) • RAIL BRACES (adjustable) • RAIL JOINTS • RAILS • SPIKES • SWITCHES • SWITCH STANDS • TIE PLATES • TRACK BOLTS • TRANSMISSION-LINE TOWERS • TOOL STEELS • TUBULAR PRODUCTS • WHEELS AND AXLES

BETHLEHEM STEEL

MT. VERNON

In Production TODAY

50' 6" auto and furniture car, AAR design, with 15' 6" clear door openings. Such cars will have extensive post-war use.



MT. VERNON CAR DIVISION: Complete Line of Freight Cars

LOCOMOTIVE DIVISION: Diesel, Diesel-Electric, Electric, Steam, and Fireless Steam Locomotives.

PROCESS EQUIPMENT DIVISION: Complete Line of Chemical, Food, and Petroleum Refinery Equipment.

QUIMBY PUMP DIVISION: Screw, Rotex, Centrifugal, Chemical Pumps.

STEEL CASTING & FORGING DIVISION: Electric Furnace Alloy, Stainless, Heat-Treated and Pressure Steel Castings; Forgings.

MT. VERNON

MT. VERNON, ILL.

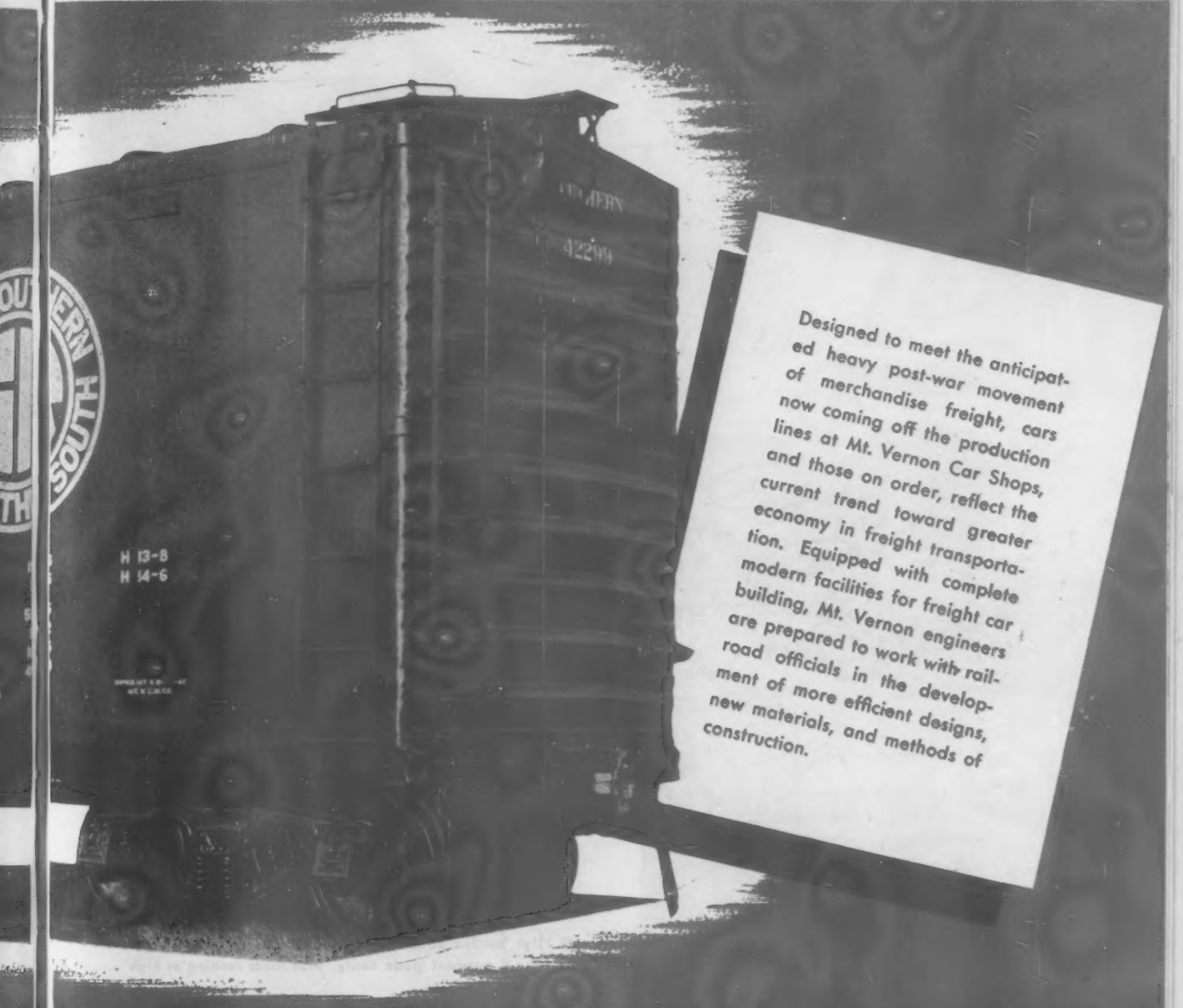
Div. of **H. K. PORTER**

PITTSBURGH 22

Factories: Mt. Vernon, Ill. • Pittsburgh, Pa. • Blairsville, Pa.

CARS

For Tomorrow's Traffic!



Designed to meet the anticipated heavy post-war movement of merchandise freight, cars now coming off the production lines at Mt. Vernon Car Shops, and those on order, reflect the current trend toward greater economy in freight transportation. Equipped with complete modern facilities for freight car building, Mt. Vernon engineers are prepared to work with railroad officials in the development of more efficient designs, new materials, and methods of construction.

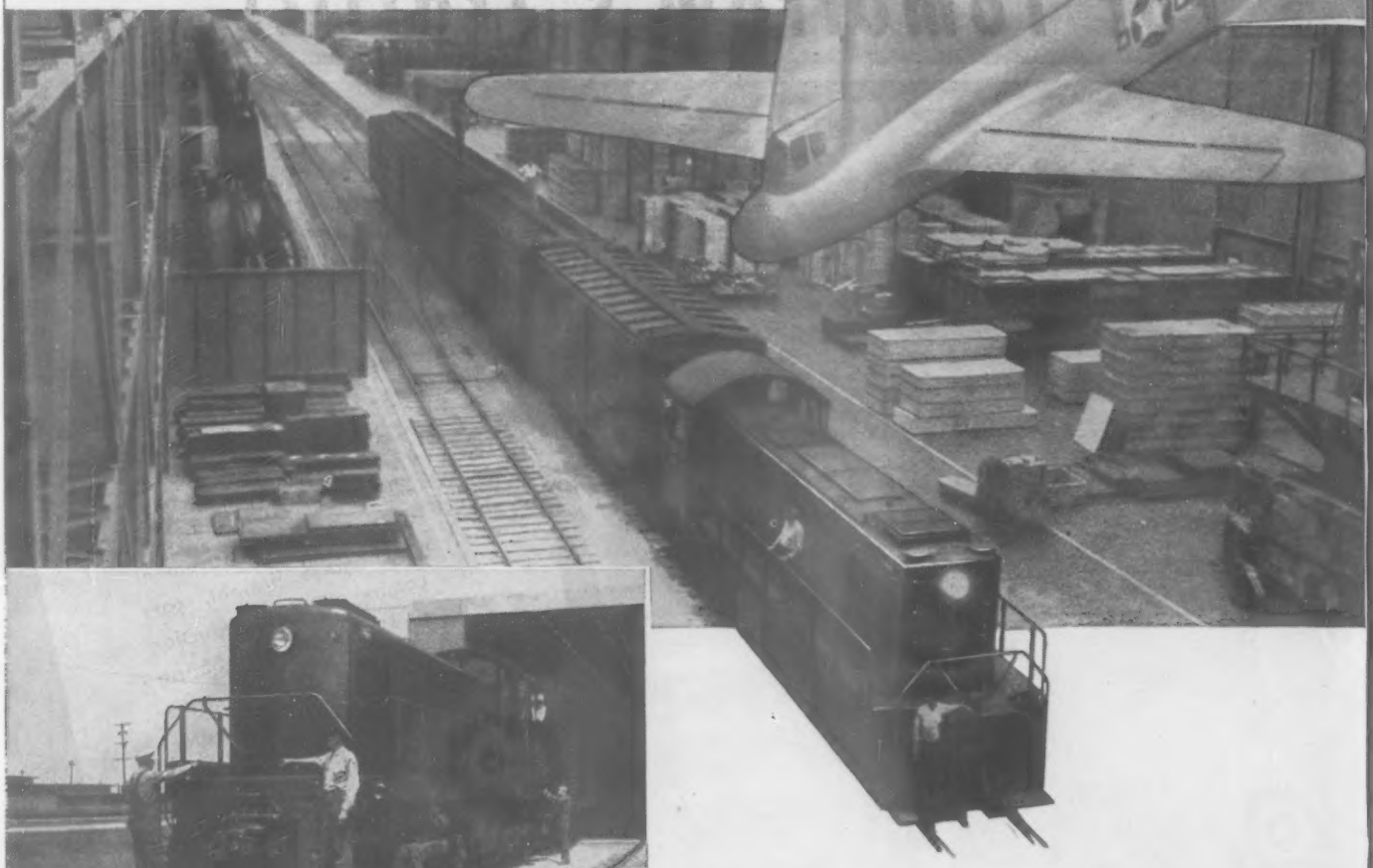
CAR MFG. CO.
ILLINOIS

COMPANY, Inc.
PENNSYLVANIA

McKeesport, Pa. • Newark, N.J. • New Brunswick, N.J.

PORTER
Better Built
Equipment
Established 1866

Alco-G.E. diesel-electric helps SPEED PRODUCTION



● On these platforms are Bell-built B-29's in the making—high-priority parts sometimes hauled in trains as long as 50 cars.

● Operating in and around buildings, the Alco-G.E. diesel-electric has eliminated smoke nuisance, greatly reduced noise, and increased cleanliness.

● High tractive effort enables the diesel-electric to negotiate the 2 per-cent grade easily, with loads running as high as 35 cars.

Alco GE

AMERICAN LOCOMOTIVE

# of B-29 SUPERFORTS

Don J. Finnegan

"Our Alco-G.E. diesel-electric locomotive has greatly speeded up handling of all freight. In 16 months there has never been any interruption of service for maintenance."

Don J. Finnegan, Traffic Manager
Bell Aircraft Corporation
Marietta, Georgia

THE Bellcraft Railroad is operated by the Bell Aircraft Corporation. It is only two years old, and only eight miles long. But it's a "hot" stretch of track. In 16 months, back of a 1000-hp Alco-G.E. diesel-electric, more than two million tons of most vital materials have sped over it—materials to build the Bell B-29 plant at Marietta, and to construct the great Superfortresses themselves.

The diesel-electric is needed 16 hours a day to keep production rolling swiftly and smoothly. And it's available every minute of those 16 hours. The remaining eight hours are more than ample to take care of all inspections, refueling, and maintenance.

It handles all road work and all switching, both in the yard and in the buildings. Over track that includes a 2 per-cent grade for 1000 yards, 6330 cars were handled in two months, or 211 cars a day, seven days a week. This Alco-G.E. unit has replaced two steamers. Its high availability, high tractive effort, and fast acceleration enables it to get more work done in less time and at lower cost.

Fuel costs are low, and no special ash-handling or watering facilities are required. Maintenance is negligible. On many roads diesel-electric savings permit writing off the investment in two to three years.

We build all three types of motive power—diesel-electric, electric, and steam. Whether your problem is meeting the wartime or peacetime requirements of your customers, Alco-G.E. is in a position to recommend impartially the type of motive power economically best fitted to do each job.

1,000,000 HORSEPOWER IN SERVICE

Since those pioneering days in the early twenties when Alco and G.E. built the first "oil-electrics," railroads have placed 1000 Alco-G.E. diesel-electrics in service, totaling more than 1,000,000 horsepower. In our laboratories and factories, the cream of motive-power engineering talent is preparing new and improved locomotive designs that will greatly strengthen your competitive position in the years that are ahead.

and GENERAL ELECTRIC

Cars

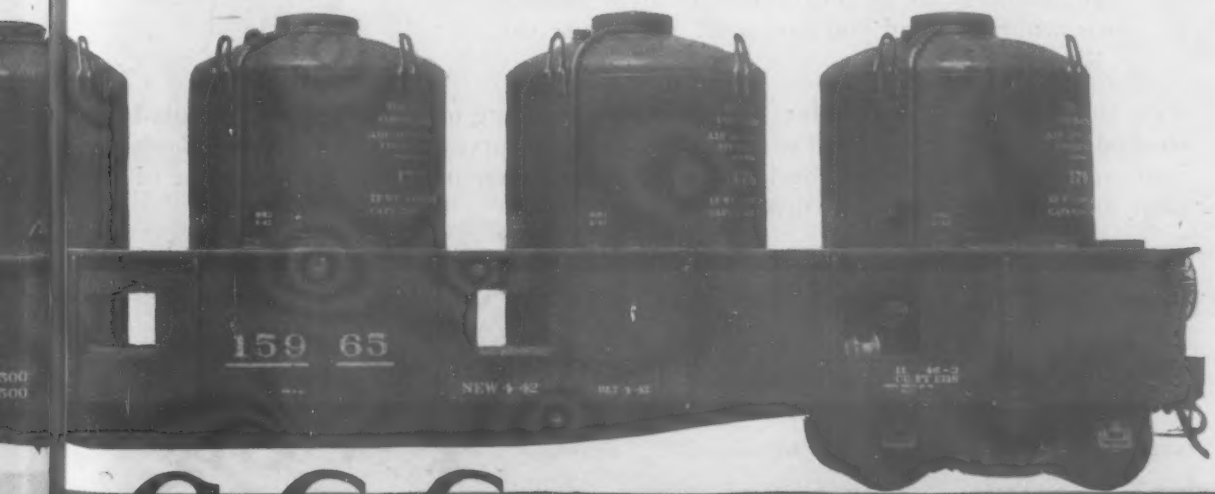
Many railroads seeking the solution of post-war traffic problems and, recognizing the necessity of new means and methods of transportation, are considering the container car with its multi-type complement of containers adaptable to many and varied uses.

A.C.F. sees container cars designed with weight capacities, sizes and shapes to accommodate a wide variety of commodities with efficiency. Cars will be made up of combinations of interchangeable containers of bulk material, package freight, refrigerated perishables together with liquids in tank type containers — all capable of being removed from the container car itself, where it is desired to avoid the expense and time of re-handling.

As a post-war feature for freight service providing overnight schedules between distant points, containers could be set off and taken on at intermediate local points to meet the most urgent shipping demands.

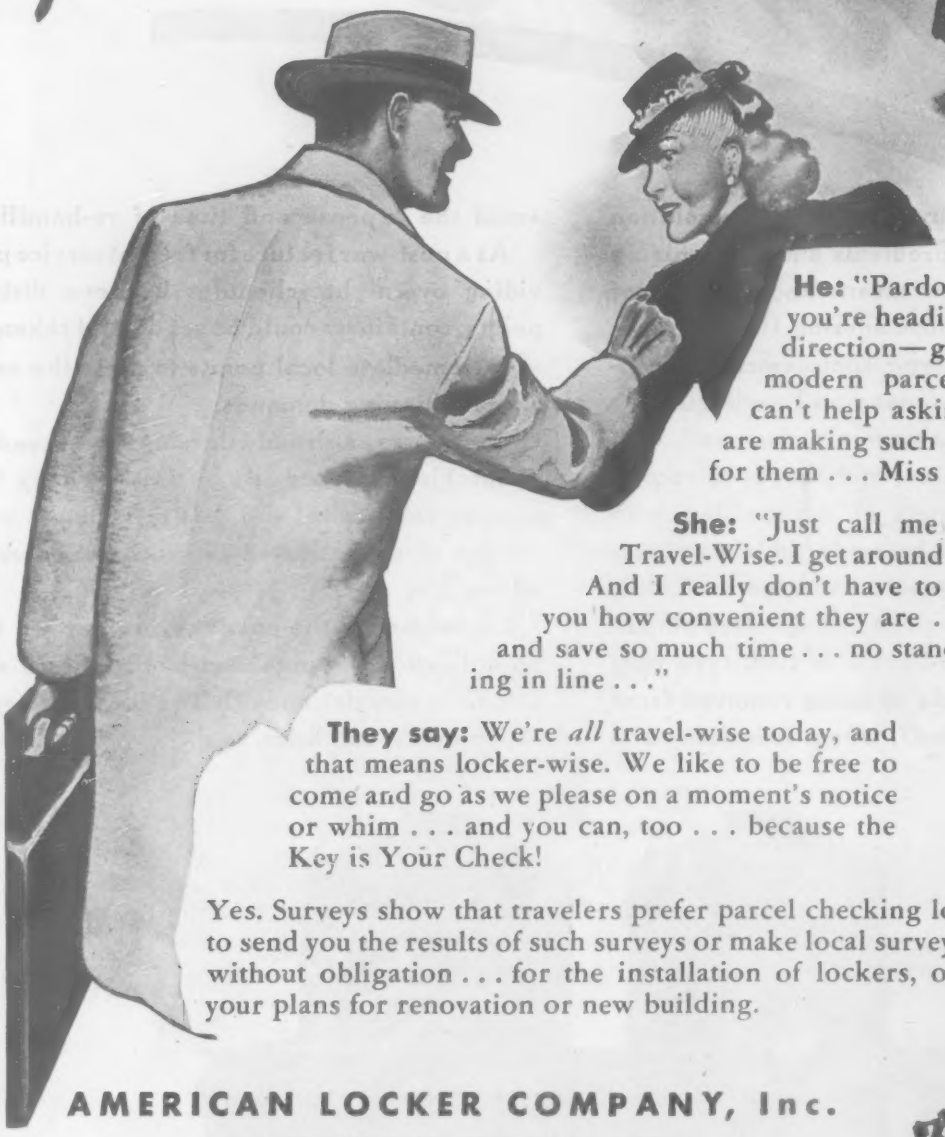
Containers as already developed are readily adaptable to varied use as is shown by the prompt, economical and very satisfactory conversion of air activated cement containers to oil service.

Containers of the past and present are but an indication of containers of the future and A.C.F. in association with The L. C. L. Corporation invites inquiries.



A.C.F. AMERICAN CAR AND FOUNDRY COMPANY

I'm Going Your Way Too



He: "Pardon me, but I see you're heading in the right direction—going for those modern parcel lockers. I can't help asking why you are making such a bee-line for them . . . Miss . . . ?"

She: "Just call me Miss Travel-Wise. I get around a lot. And I really don't have to tell you how convenient they are . . . and save so much time . . . no standing in line . . ."

They say: We're *all* travel-wise today, and that means locker-wise. We like to be free to come and go as we please on a moment's notice or whim . . . and you can, too . . . because the Key is Your Check!

Yes. Surveys show that travelers prefer parcel checking lockers. We shall be glad to send you the results of such surveys or make local surveys and recommendations without obligation . . . for the installation of lockers, or for their inclusion in your plans for renovation or new building.

AMERICAN LOCKER COMPANY, Inc.

211 CONGRESS ST., BOSTON 10, MASS.

DISTRICT OFFICES

BOSTON NEW YORK PHILADELPHIA PITTSBURGH ATLANTA
CLEVELAND CHICAGO DALLAS LOS ANGELES

A Nation-Wide Service

CHECK THE MODERN WAY . . . THE KEY IS YOUR CHECK

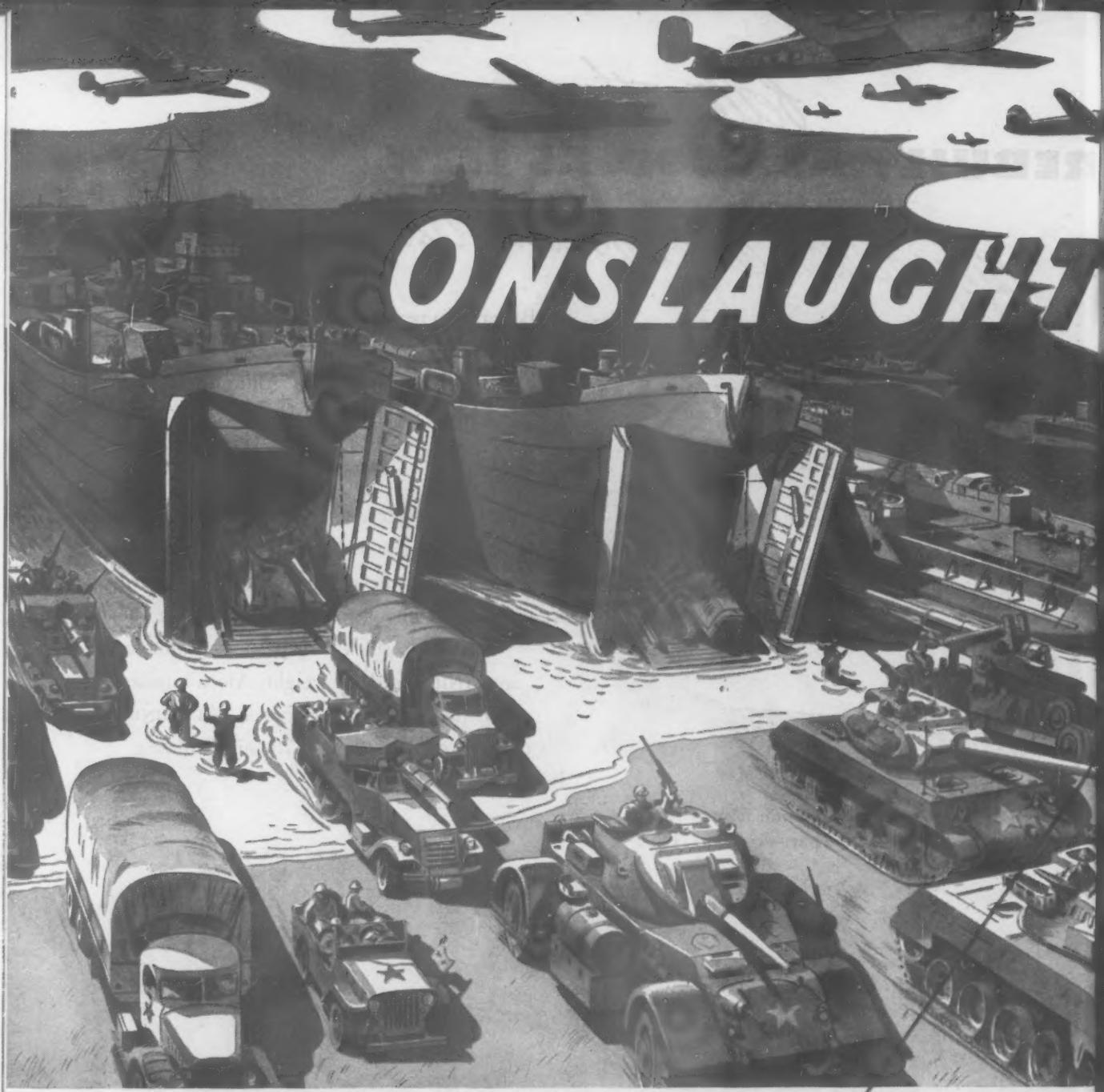
better than
REBUILT ~~AS GOOD AS NEW~~ *because*
they added Long Life with Alcoa Aluminum

This section of an aluminum hopper sheet weighs only 58 lbs. Old part weighed 174 lbs.

Better than new because all plates in contact with the lading now in this Burlington hopper car are Alcoa Aluminum. They're highly resistant to the corrosive attack of high sulphur coals this car is called upon to carry. Experience elsewhere, with aluminum in hopper cars, indicates a useful life of thirty years or more for this rebuilt car.

To car designers and users who are wondering about ways of lengthening the life of rolling stock, of cutting maintenance and reducing dead weight, Alcoa engineers offer their advisory services. ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA ALUMINUM



GREAT LAKES STEELS—N-A-X ARMORPLATE, N-A-X HIGH-TENSILE, N-A-X 9100 SERIES ALLOYS—ARE USED IN THIS WAR EQUIPMENT: Tanks, Tank Killers and Self-Propelled Gun Mounts — the General Grant, General Lee, General Sherman, Honey, Priest, Hellcat, Slugger, Greyhound, Staghound, Locust . . . LVT Amphibian Tanks—Water Buffalo, Alligator, Scab . . . Jeeps, Amphibian Jeeps, Trucks, Trailers, Tank Retrievers, Armored Half-Tracks, Personnel Cars, the "Weasel," Tractors, Locomotives, Scrapers, Graders, Bulldozers, Bomb Trailers . . . Landing Craft—LST, LCI, LCM, LSM, LCT, LCVP, LSD, LCS . . . Naval Craft—Aircraft Carriers,

VERSATILE N-A-X STEELS

Helped Give America Its "Fightingest" Weapons

GREAT STEELS FROM GREAT LAKES

Submarines, Submarine Tenders, Submarine Chasers, Light and Heavy Cruisers, Mine Sweepers, Destroyers, Destroyer Escorts, Patrol Craft, PTs, Battleships . . . Anti-Aircraft and Artillery—.50-Caliber Machine Gun Mounts, 40-mm. Bofors, 75-mm., 90-mm., 105-mm. and 155-mm. Gun and/or Howitzer Mounts and Carriages, Armor Gun Shields . . . Aircraft, from Fighters to Bombers — Armor, Oxygen Supply Cylinders, Landing Wheels, Brake Drums and Frames, Superchargers, Bearings, Tools . . . Miscellaneous Applications—Aerial Torpedoes, Demolition Bombs, Flame Throwers, Diesel Engines, Cable Reels, Pontoons, Land Mines, Ammunition Boxes and Others.

Out of America's great manufacturing industries—out of the coordinated teamwork of engineers, technicians, metallurgists, material processors and production men—has come the mechanized might that will crush the Axis. It is an *onslaught of steel*, launched against the enemy by fighting men whose skill and courage make victory inevitable.

Much of the steel that goes into this fighting equipment flows from the mills of the Great Lakes Steel Corporation: *N-A-X High-Tensile Steel* for highly stressed structural parts and members subject to fatigue and impact—*N-A-X 9100 Series Steels* for constructional parts—*N-A-X Armorplate* for rugged armored equipment of all types. From the earliest tanks built, to the recently announced Staghound, armored with *N-A-X Armorplate* exclusively, Great Lakes Steel Corporation has played a vital role in supplying our land, sea and air forces.

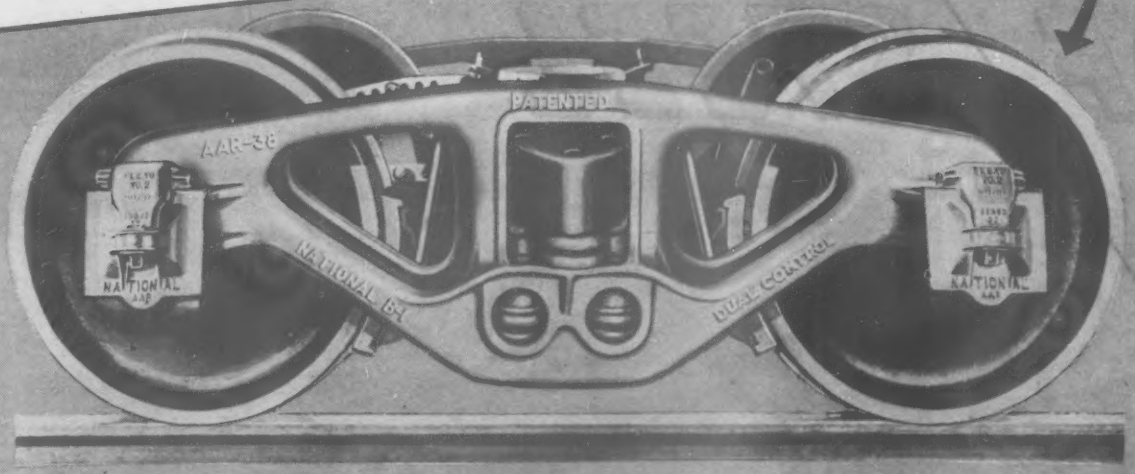
Proved in the stern test of battle, *N-A-X Alloy Steels* will speed reconversion—lend new strength, lightness and durability to postwar products.

GREAT LAKES STEEL

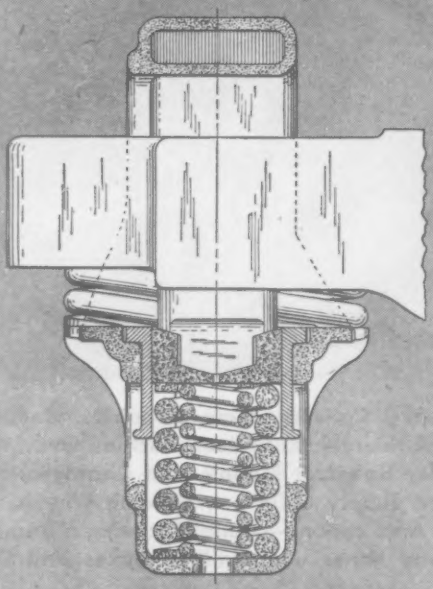
Corporation

N-A-X ALLOY DIVISION
UNIT OF NATIONAL STEEL CORPORATION

The Truck For Smooth, Safe Riding



No Spring Plank
No spring plates
Quick Wheel Change



Section thru Control Unit

A smooth riding car means less damage to lading and longer life for equipment.

The National B-1 Truck has four control units (two in each side frame) which control "spring bounce" and forces which tend to throw trucks out of square.

Cars equipped with National B-1 Trucks with Dual Control can be speeded up with Safety.

Smoother riding and Fewer Parts assure lower maintenance costs.

* * *

The truck for Post-war high-speed freight service.

National B-1 with Dual Control.

Specify National B-1 Trucks with Dual Control to keep cars "on the go"

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Offices: CLEVELAND, OHIO

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco.
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives: RAILWAY AND POWER ENGINEERING CORPORATION, LTD., *Toronto and Montreal*

FOR A LONGER-LASTING PAINT JOB
Specify Flame-Cleaning

● Thorough cleaning and drying of steel surfaces is assured when Oxweld's flame-cleaning method is used. In this procedure, high-temperature oxy-acetylene flames are passed over the work, dislodging dirt and soot, evaporating all moisture, and causing scale and rust to expand and pop off. The surface is then wire-brushed and painted while warm. This provides a more lasting paint job than when other metal-cleaning methods are used, for paint bonds tighter, spreads more evenly, and dries more quickly when applied to warm, dry metal.

The ease and economy of applying Oxweld's flame-cleaning . . . plus the high quality of the results obtained . . . have led to the use of this method to clean and dry all types of structural steelwork—train sheds, bridges, pipe, tanks, rail that is to be covered, and rolling stock of all kinds. Ask an Oxweld representative for information regarding a demonstration.

BUY UNITED STATES WAR BONDS AND STAMPS

THE OXWELD RAILROAD SERVICE COMPANY
Unit of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York

OXWELD RAILROAD SERVICE

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

YOUR JACKSON MAINTENANCE MAN SAYS:

"THE MAJORITY OF LEADING AMERICAN RAILROADS *can't be wrong* when they REORDER JACKSON VIBRATORY TAMPERS"

A FEW USERS

Atchison, Topeka & Santa Fe Ry. Co., The
Atlantic Coast Line R. R.
Boston & Maine R. R.
Central of Georgia Ry. Co.
Chicago & North Western Ry. Co.
Chicago, Burlington & Quincy R. R. Co.
Chicago, Milwaukee, St. Paul and Pacific R. R. Co.
Chicago, Rock Island & Pacific Ry. Co., The
Delaware & Hudson R. R. Corporation
Florida East Coast Ry. Co.
Great Northern Ry. Co.
Illinois Central System
Kansas City Southern Ry. Co., The
Louisville & Nashville R. R. Co.
Maine Central R. R. Co.
Minneapolis, St. Paul & Sault Ste. Marie Ry. Co.
Missouri Pacific Lines
Nashville, Chattanooga & St. Louis Ry., The
National Railways of Mexico
New York Central System
New York, New Haven & Hartford R. R. Co.,
Norfolk & Western Ry. Co.
Northern Pacific Ry. Co.
Pere Marquette Railway Co.
St. Louis-San Francisco Ry. Co.
Seaboard Air Line Ry.
Southern Ry. System
Texas & New Orleans R. R. Co.
(Southern Pacific Lines in Texas and Louisiana)
Texas & Pacific Ry. Co., The
Union Pacific R. R.
Wabash R. R. Co.

Despite severe restrictions on materials for production of maintenance equipment, increases over 1944 budgets are indicated for 1945 work-equipment items. The continuing need for mechanized maintenance tools is demonstrated in the liberal 1945 commitments made for JACKSON *vibratory* Tampers and Portable Power Plants. A large volume of these represent repeat business from long-time users.

Preference for JACKSON Tampers stems from their consistent performance over a period of 25 years, in all sections of the country, on a majority of American railroads. Adapted to *any ballast* and *all lifts*, vibratory tamping is fast, uniform and economical.

And, JACKSON Tampers are easy on the inexperienced operator. The combination of weight, balance and vibratory action does any tamping job effectively and quickly. All the operator has to do is guide the tamper — the machine does the work.

If you need more tampers for next year, now is the time to write for complete information on JACKSON Vibratory Tamping methods and equipment.

ELECTRIC TAMPER & EQUIPMENT CO., Ludington, Michigan

S:

THE A

AM

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MAN SAYS:

LEADING
ROADS
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ORDER
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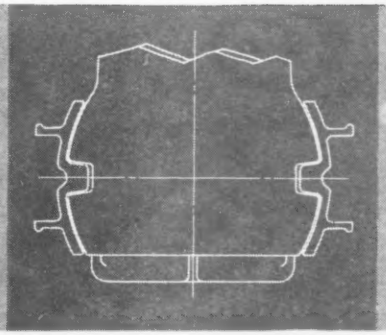
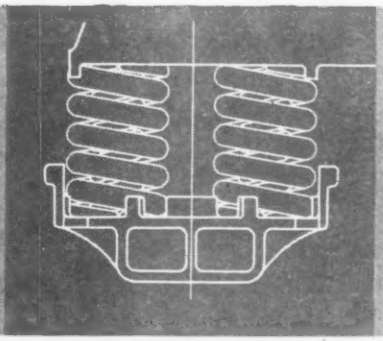
ton, Michigan

RAILWAY AGE

THE A·S·F *Basic* FREIGHT-CAR TRUCK



Here is a rugged truck of simple design. It combines all the essentials of a good freight-car ride with the low-maintenance benefits of simple construction. To illustrate, the A. S. F. Basic Freight-Car Truck is held together by tongues on the side frame columns that mesh with grooves in the bolster. Curved surfaces between side frame columns and bolster minimize column wear, eliminate binding, and assure generous contact areas to provide dependable operation.



Of simple construction, too, is the flanged spring seat that is an integral part of the side frame. Every side frame and bolster meets all A. A. R. strength requirements. And for greater utility, the Basic Truck can be used with either all-coil spring groups or combination snubber-coil spring groups. The Basic Truck is a safe freight-car truck.

AMERICAN STEEL FOUNDRIES

CHICAGO

MINT-MARK OF FINE CAST STEEL

First 10 YEARS AGO . . . *First* TODAY

that's

the Houdaille record

● More than ten years ago Houdaille* engineers developed the *first* hydraulic equipment to insure the superb riding comfort and stability of the world's *first* lightweight high-speed train.

Today Houdaille Double-Acting Shock Absorbers are giving highly efficient service on the most famous streamlined trains in America — service which in many cases has exceeded the million mile mark.

Improved Houdaille railroad instruments for vertical, lateral and journal box control are now ready for post-war production. Ask us about them.

HOUDE ENGINEERING DIVISION OF
HOUDAILLE-HERSHEY CORPORATION
MAKERS OF HYDRAULIC CONTROLS
Buffalo 11, New York

*Pronounced—Hoo-dye

2¾% Nickel Steel locomotive rods, one bent cold to show ductility.

QUENCHED AND TEMPERED

NICKEL STEEL

FORGINGS COMBINE

EXCEPTIONAL DUCTILITY WITH HIGH TENSILE STRENGTH

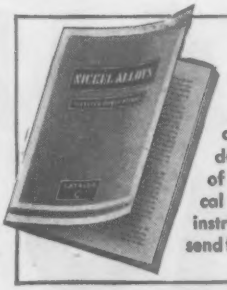
Composition and Typical Properties of Normalized Quenched and Tempered 2¾% Nickel Steel Rods

Description or Size	Melt Yield Pt. No. #s per Sq. In.	Tensile Strength #s per Sq. In.	Elong. % in 2 In.	Reduction in Area %	ANALYSIS					
					Car.	Mang.	Phos.	Sul.	Sil.	Ni
Main Rod....	92900	110000	25.0	64.4	.31	.78	.027	.026	.25	2.75
Main Rod....	86500	104500	25.5	65.6	.32	.86	.034	.032	.29	2.69
Main Rod....	86360	104400	26.0	64.8	.32	.86	.034	.032	.29	2.69
Main Rod....	87850	102350	26.0	66.2	.31	.89	.037	.025	.32	2.69
Front Rod....	86000	102250	25.0	67.3	.29	.82	.035	.027	.24	2.71
Front Rod....	83900	104250	25.0	66.1	.29	.82	.035	.027	.24	2.71
Front Rod....	86850	104250	27.0	66.1	.32	.86	.035	.025	.30	2.65
Front Rod....	89500	107050	25.5	65.6	.32	.86	.035	.025	.30	2.65
Back Rod....	89500	107650	25.0	62.7	.30	.79	.030	.025	.22	2.71
Back Rod....	87500	106450	25.0	65.4	.29	.82	.035	.027	.24	2.71
Back Rod....	87000	105600	25.0	65.4	.29	.82	.035	.027	.24	2.71
Back Rod....	88150	104850	26.0	66.8	.29	.82	.035	.027	.24	2.71

Specimens Taken from Mid-Section of Prolongations of the Forgings

The above table compiled by the American Locomotive Company shows the chemical compositions and mechanical properties of some normalized, quenched and tempered nickel steel front, main and back rods recently produced as replacement rods for locomotives being speeded up and rebalanced. These values are typical of replacement rod forgings recently tested by that company.

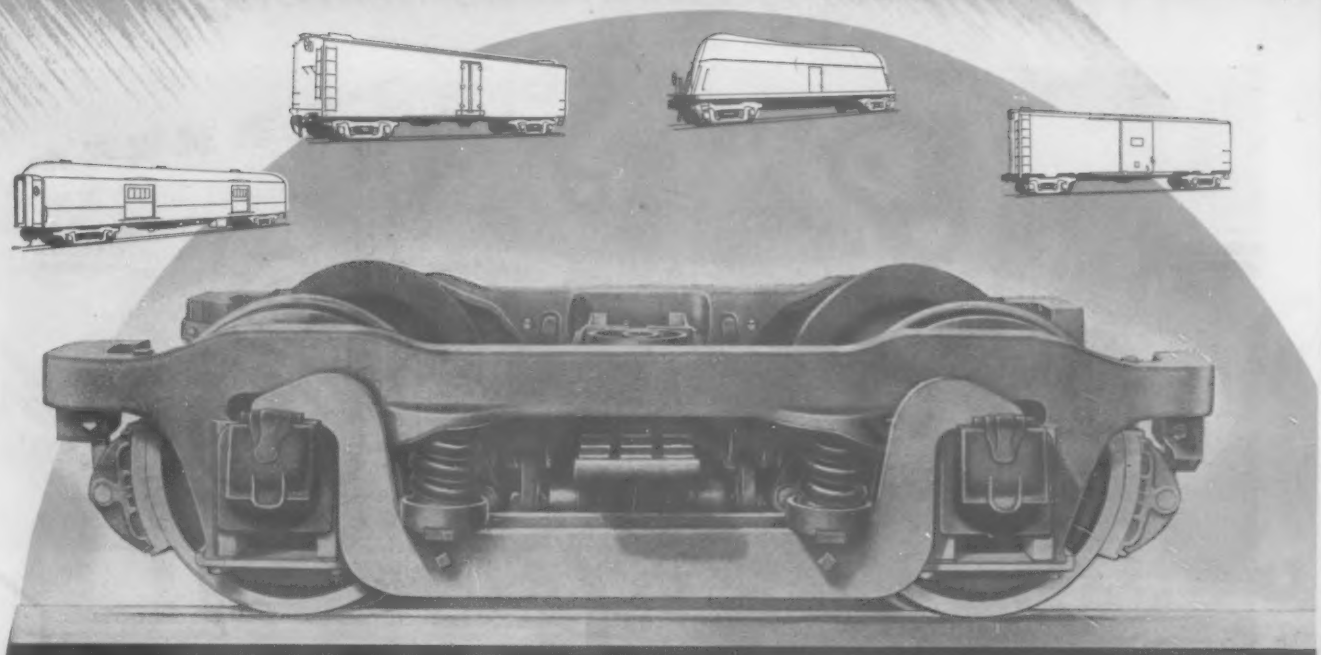
Quenched and tempered nickel steel forgings provide high tensile strength and ductility, combined with unusual toughness and high fatigue strength—qualities which tend to obviate breakage and assure long, trouble-free service when employed in heavy duty machinery and equipment.



Catalog "C" **makes it easy for you to get booklets and bulletins on industrial applications of Nickel, metallurgical data and working instructions. Why not send for your copy today?**

* Nickel *

THE INTERNATIONAL NICKEL COMPANY, INC., *67 Wall Street, New York 5, N. Y.*



Especially Designed for

Express, Refrigerator, or Merchandise Cars in Passenger Train Service

THIS COMMONWEALTH EQUALIZED SWING-MOTION truck meets the demands for a safe, practical, lightweight truck for use under commodity carrying cars operating in high-speed service.

Two spring systems—full-elliptic bolster springs and equalizer coil springs—give increased spring capacity. The swing hanger arrangement permits lateral control. This COMMONWEALTH truck provides better riding which results in less shock and damage to car contents, car body, and track structure. Either clasp or single shoe brakes can be used.

With the general speeding up of merchandise traffic, both now and in the postwar era, it will pay you to investigate all the advantages of this COMMONWEALTH truck.

GENERAL STEEL CASTINGS

Eddystone, Pa. • • Granite City, Ill.

EYES ON TOMORROW

On drawing board and blueprint, in research laboratory and on testing machine you will find the shape of things-to-come in railroading.

We know the American public expects great things—new, modern trains; daring designs; exciting and novel innovations; new power; new speed; new riding qualities; new comforts and luxuries; new services and ideas in travel, in shipping . . . in a word, transportation values beyond anything known or experienced before.

In its planning, the Pennsylvania Railroad has these things in mind—for it is a tradition of this railroad to look ahead, and apply its research to finding new ways to serve the traveling and shipping public better!

★ *50,757 entered the Armed Forces* ☆ *532 have given their lives for their Country*

BUY UNITED STATES WAR BONDS AND STAMPS

TRAIN TALK THAT COUNTS . . . WITH Motorola F-M Radio

Photo shows yardmaster in Blue Island Yards of Rock Island Lines using his F-M two-way Motorola Radiotelephone to talk to freight engineer in his moving Diesel locomotive twenty-five miles away.

When your railroad engineer talks at will to the brakeman or conductor in the caboose; and the yardmaster or train dispatcher in his office speaks directly to the engineer in his speeding cab; and the engineers of moving trains talk to each other, THAT'S TRAIN TALK THAT COUNTS.

This two-way radio communications obtained by the MOTOROLA F-M Two-way Radio telephone system *counts* in efficiency, economy and safety, three vital essentials in any business, but doubly important to railways.

MOTOROLA RADIO engineers are noted not only for the famous "Handie-Talkie" (a Motorola Radio First), the fighting two-way radio used by our armed forces on every battle-front but they are also noted for their famous two and three-way police radiotelephone systems installed in 26 States and over 500 communities throughout the United States, the Canal Zone and Hawaii.

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F-M & A-M HOME RADIO • AUTO RADIO • AUTOMATIC PHONOGRAPH • TELEVISION • F-M POLICE RADIO • RADAR • MILITARY RADIO

J-M Corrugated Transite used for 315′ extension of 25′ passenger Diesel house

In 1937 the C.B. & Q.R.R. built a house 25' long and 38' wide to shelter the Diesel Motors of Zephyr trains in turning at the Chicago Terminal. Approximately 35 squares of J-M Corrugated Transite were used for wall and roof material.

In 1944 an extension 230' long was added. This house turns 5 passenger Zephyr motors in 24 hours. Another extension 85' long is now in course of construction.

So satisfactory is the Corrugated Transite in the small original structure which required only 35 squares that it is used in both large extensions where 341 squares are required.

On this job Corrugated Transite sold itself almost 10 times over!

That's readily understood when the composition of Corrugated Transite is considered. Made of asbestos and cement, compressed into a firm solid sheet and corrugated for extra strength, it will not burn, rot, rust or corrode. And it never needs painting or other preservative treatment.

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JM PRODUCTS

Johns-Manville

87 YEARS OF SERVICE TO TRANSPORTATION

Insulations · Packings · Friction Materials · Refractory Cement · Building Materials

CORRECTION!

Notice of the change in the effective date of Interchange Rule 3—Bottom Rod and Brake Beam Safety Supports—was received too late to make changes in our advertisement in the Jan. 6, 1945, issue of RAILWAY AGE. The correct information is given below:

EFFECTIVE JANUARY 1, 1946

TO ALL CAR OWNERS: Due to present emergency conditions, the General Committee has authorized an extension of one year in effective date of requirement appearing in Paragraph (8) of Section (b) of Interchange Rule 3.

"Please take notice, therefore, that this paragraph is modified effective January 1, 1945, to read as follows:

"'(b) (8) Bottom rod and brake beam safety supports, A.A.R. Recommended Practice, or A.A.R. approved equivalent, required on all cars equipped with four-wheel trucks, built new or rebuilt on or after August 1, 1933, except that bottom rod supports are not required on trucks where bottom rod passes through the truck bolster, and brake beam safety supports are not required on trucks equipped with brake beam safety ledges cast integral with side frame nor on 'Unit' trucks equipped with hangerless type brake beams. On 'Unit' trucks equipped with A.A.R. Standard brake beam (or beams), brake beam safety supports are required. Effective January 1, 1946, the foregoing requirement will also apply to all cars. In Interchange.'

"The above will supersede the wording of this paragraph as it appears in the 1945 Code of Interchange Rules."

Universal and Gripco Brake Beam Safety Supports are A.A.R. Approved Equivalents

GRIP NUT COMPANY

310 SOUTH MICHIGAN AVENUE, CHICAGO 4, ILLINOIS

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3-WAY
FLUE ROLLER

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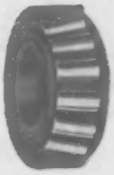
Give the Superior 3-Way Flue Roller a trial and you will never want to go back to the old slow method. If time-saving were the only advantage you would still be ahead—But Superior goes farther. It assures even expansion, a tight joint, correctly formed contours. It prevents flues from becoming distorted. It eliminates fire cracking in the fire box end. It avoids the hazard of flying chips.

SUPERIOR RAILWAY PRODUCTS CORP.
7501 Thomas Boulevard, Pittsburgh, Penna.

W. O. MARTIN	CADE-DWYER COMPANY	ROSS ANDERSON	BEN H. LOBDELL	THE HOLDEN CO.
822 So. Twenty-third Street	683 Atlantic Avenue	Stuart Court Building	539 W. Olney Avenue	736 St. James St., W.
FORT SMITH, ARK.	BOSTON, MASS.	RICHMOND, VA.	PHILADELPHIA, PA.	MONTREAL, CANADA

Another convincing example of roller bearing locomotive availability



The General Superintendent of Motive Power of a large Southeastern railroad writes as follows:

*"During the month of May, 1944 the_____ Railway had in service 320 steam freight locomotives; 103 of these or 32.2% are equipped with *roller bearings. These 32.2% of the steam freight locomotives made 73.2% of the total freight mileage."*

Locomotives equipped with Timken Roller Bearings on all axles, including driving axles, consistently roll up greater mileages than similar locomotives operating on friction bearings because they are on the road more of the time —in the shop less.

Most existing locomotives can be converted to Timken Bearings. It will pay you to consider converting *your* locomotives *now*. The Timken Roller Bearing Company, Canton 6, Ohio.

*TIMKEN

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
RAILWAY ROLLER BEARINGS

"AP" DECELOSTAT . . .

The *Mechanical-Pneumatic* Wheel Slip Control

for { Functional Simplicity
Simplified Installation
Ease of Maintenance

SOFTENS THE BRAKE
WHEN WHEEL SLIP IMPENDS.

Functional Simplicity . . . Single rotating element, operating on ball bearings—constantly reflects wheel performance at the scene of action.

Simplified Installation . . . apparatus confined entirely to the truck. On-the-spot performance regulates braking pressure promptly when wheel retardation exceeds predetermined rate.

Ease of Maintenance . . . No connections between car body and truck means fewer connections to inspect and maintain.

Westinghouse Air Brake Company

Wilmerding, Pa.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 118 January 20, 1945 No. 3

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In This Issue

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The Week at a Glance

RAILROAD RADIO CHANNELS: The Federal Communications Commission has issued a proposed report in which radio wave bands are tentatively allocated to the railroads for train communication radio installations. The railroads asked for six channels below 3 megacycles and the F. C. C. proposes to assign them three. In the 100-200 megacycle zone the carriers asked for 88 channels and the F. C. C. thinks 33 ought to do them. Other railroad assignments are of similarly discounted generosity, as is revealed in a feature article in this issue. In suggesting these wavelength assignments to the railroads, the F. C. C. gave as its opinion that the carrier current method cannot, as so far developed, meet all the railroads' needs for communication.

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EYEWITNESS IN FRANCE: Right from the Second Military Railway Service in France comes an account of what these boys were up against as their part of chasing the Nazis out of France, and forwarding the supplies to carry the push to the border of Festung Deutschland. The Army railroaders' trouble came from the speed with which the supermen withdrew from France. In just a matter of days, the M. R. S. had to take over about 8,000 miles of railway line with which they were wholly unfamiliar, with all yards practically destroyed by A. A. F. bombing, and with no communications. Trains started out with no notion of how to get where they wanted to go, and having to lug their fuel along, often being dependent on wayside streams for water supply. Turn to page 194 for this story.

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DECADE OF LIGHT CARS: The Baltimore & Ohio in 1934-35 put into service ten lightweight hopper cars, of varied composition. All the cars are still in service and an illustrated article in this issue tells how they have made out. All appear to have done pretty well, and a comparison of the present condition of the cars is presented in convenient tabular form.

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REORGANIZE CONGRESS?: The National Planning Association this week made public a report on the proposed reorganization of Congress—to achieve greater efficiency in legislation, and more attention to the national interest, in substitution for departmentalized promotion of local and special interests as at present. The principal *means* suggested to this end is a reduction in the number of Congressional committees. War Mobilization Director Byrnes, in an article in the "American Magazine," makes the same proposal—but, as far as transportation goes, the Byrnes plan would not improve a bad situation, but, most likely, would make it worse. The leading editorial points out that the railroads' lack of credit, adequate to make post-war improvements of the magnitude required in the public interest, stems from the failure of Congress to deal with all transportation as one problem, instead of a half-dozen separate entities, each with a legislative committee (promotional rather than regulatory for most agencies except the railroads). National transportation health requires that the welfare of the whole take precedence over special favors to any or most of the parts, but Congress has no organization empowered to deal with the over-all welfare of transportation and Reformer Byrnes does not recommend that it be provided one.

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REFORM OR RETROGRESSION?: Our editorial discussion goes on to observe that three of the nation's thoughtful railway executives have recently reached, independently, the conclusion that the railways are not likely to be able to raise sufficient new capital from private sources to improve railroad service adequately to meet the needs of commerce and defense, so long as other agencies of transportation are promoted by billions of unpredictable public expenditures, sponsored by Congressional committees, which have no obligation to subordinate their zeal for the advancement of specialized forms of transportation to the primary national concern for the adequacy and welfare of the nation's transport service as a whole. Indeed, the proposal for Congressional reorganization has stirred up the aviation enthusiasts to demand separate committees for that segment of the industry. Instead of Congress becoming more effective and realistic in its treatment of transportation, it may botch the job even further, unless informed leadership becomes articulate forthwith.

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VS. CURRENT OF TRAFFIC: The I. C. C. has issued a show cause order to the Pennsylvania, asking why the railroad should not be required to "revise its operating practices so as to provide adequate protection when trains are moved against the current of traffic." The occasion bringing forth this expression was an accident on November 14 on the four-track main line west of Harrisburg, Pa., in which a train proceeding in its normal direction managed to get by a tower which had instructions to hold such trains to protect a movement against the current of traffic. No train orders were issued—an interlocking home signal indication being relied upon to hold back normal traffic to permit the contra-current movement. The circumstances are set forth in the news pages. In issuing its show cause order, the I. C. C. recalled a similar accident in 1942, following which it had suggested that the railroad take steps to provide "suitable" protection for such operations.

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SAFETY BUREAU REPORT: The watchdog of railroad safety practices has made known its annual observations of the conditions that prevail—summarized in our news pages. "Hog law" violations rose 58 per cent from fiscal '43 to fiscal '44. The ratio of defective equipment detected by the bureau's sleuths rose too, and the bureau is much chagrined that only 45 per cent of cars in interchange have been equipped with the AB brake, with 95 per cent of the time allotted for making this improvement having elapsed.

PASSENGER TRAIN BAN: The O. D. T. on January 11 issued its general order No. 47 calling on railroads to discontinue seasonal passenger trains serving resort areas, and to eliminate all trains which did not average 35 per cent occupancy in November. At the time of going to press, we were unable to locate any railroad which understood exactly what the order meant. Does the 35 per cent apply to the entire trip or to the initial or final terminal? There are trains leaving or arriving at terminals with over 100 per cent loads which are less than 35 per cent occupied at points out on the line. And how about trains handling heavy head-end business, accommodating a few passengers incidentally? Must passenger service be abandoned on these trains in order to manufacture better looking statistics of train occupancy? The order raised but did not answer such questions. Some such spectacular orders may be necessary for publicity reasons whether they save coal on the railroads or not, in order to awaken the general public to the necessity for conserving fuel.

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PER DIEM BOOST DELAYED: Because of a possible conflict with O. P. A. rules, the A. A. R. has advised member roads to suspend temporarily the increase from $1 to $1.15 in the per diem charge for "foreign" cars, which went into effect on January 1. Meantime, the Short Line Association is fighting the increase, contending that the assessment should be reduced rather than raised.

●

MUST PAY USELESS HELP: The I. C. C. is well satisfied with the provisions it made for employees in the case of a line abandonment by the Burlington and has refused to reconsider its order. Instead of maintaining the customary two-year jurisdiction following the cessation of operation, in order to protect employees from the natural consequence of hiring out for service for which public demand has ceased, the Commission in this case retained four-year jurisdiction—having the effect of guaranteeing for that period the earnings of employees withdrawn from wasteful labor. Since laying these onerous burdens on the Burlington, as our news report points out, the regulators have inflicted similar punishment on other carriers seeking to withdraw from uneconomic services, and plainly indicate their intention of standardizing this liberality with other people's assets. A layman is still permitted, perhaps, to have his opinion of the quality of the morals and economics which are reflected in this policy. Politics has thus given investment capital one more incentive to stay out of the railroad business.

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POTOMAC BRIDGE: The Pennsylvania's important structure at Washington has been renewed—a girder-span construction replacing the old truss installation. The whole remarkable job, done under traffic running as high as 260 trains a day, is described in an illustrated article in this issue.

RAILWAY AGE

Only Congress Can Cure Transportation's Malady

The chief executives of two of the nation's important railways—Gustav Metzman of the New York Central and Fred G. Gurley of the Santa Fe—have within a month expressed grave concern over the prospects for financing in private capital markets of improvements in railroad plant that will be needed in future (*Railway Age,* December 23, page 956, and January 13, page 154). Both of them ascribe the difficulty primarily to the same cause, namely, the persistence and unpredictability of enormous appropriations of public funds for additions to fixed plant of rival agencies of transportation for which the users pay inadequately or not at all. President Budd of the Burlington expressed substantially similar conclusions in an address reported in *Railway Age* of June 10, page 1119.

To keep pace with the need of industry for modern and dependable transportation during the decade following the war, the railways should make capital expenditures in the neighborhood of $10 billions. This estimate has been made independently by "Fortune" (December issue, page 248) and the railroad committee of the Investment Bankers Association (*Railway Age,* January 6, page 83), and is approximated by the Transportation Association of America in its recent annual report (*Railway Age,* January 13, page 163). Only a fraction of this amount could be derived from depreciation charges or net earnings. The remainder would have to be secured by the sale of securities to private investors who are wary of the railroads for reasons advanced by Messrs. Gurley and Metzman.

New Capital Not Forthcoming

It is true that railroad bonds are now selling at fairly high prices, but these are existing and refunding issues. If the railroads should endeavor to use a substantially larger ratio of their earnings for capital improvements, rather than for debt retirement as at present, or should seek to float new bond issues for capital expenditures, the Investment Bankers' railroad committee says that the result would be to "shatter" the railroads' improving credit. Meantime, equity financing is quite impossible because of small current dividends. In the Commercial & Financial Chronicle of January 11, Roger Babson advises: "Begin now to unload rail stocks and income bonds."

The nation must have modern and reliable railroad service to meet the needs of defense as well as of industrial efficiency. Such railway service cannot be assured without greater quantities of new investment capital than are now in prospect. There are, thus, only two alternatives: (1) the removal of the special favors in capital supply from tax funds to rival types of transportation, which are inhibiting private investment in railroads, or (2) the extension of parallel governmental favors to the railroads, either through subsidies or through some form of tax exemption, as suggested by Mr. Gurley.

Why Congress Is Responsible

Congress (and to a lesser degree the state legislatures, yielding to the temptations of "federal aid" proffered by Congress) is responsible for this prospective crisis in transportation, and only Congress can correct it. But where in Congress can the responsibility be fixed? There are, in each house, at least a half-dozen committees dealing with major aspects of transportation (an interstate commerce committee, a roads committee, a waterways committee, to name only three of them). The roads committees and the waterways committees plan their appropriations with no knowledge of or concern for the over-all efficiency of the nation's transportation system; instead they consider only the immediate interests of the types of transportation with which they are specifically concerned.

Congress, then, has the responsibility for remedying the disease which its irrational organization has inflicted upon the nation's transportation service—but, as long as the task is scattered among so many independent committees, it cannot discharge this responsibility. It can do so only if it remedies its defective organization either (1), on a temporary basis, by establishing a joint commission to survey all of transportation from the point of view of adequate capital supply as well as regulation, in which group each of the many committees now dealing with transportation would be represented; or (2) permanently provides a rational Congressional policy toward all of transportation by establishing an over-all transportation committee in each house, in which would be unified the responsibilities now so widely diffused.

Leaders in Congress recognize its defective organization, and resolutions are pending in both houses to renew a joint inquiry into reorganization which received the sanction of both houses in the closing days of the past session. Some of the suggestions for improved organization, however, betray a tragic ignorance of the plight of transportation and its causes. In the February "American Magazine," War Mobilization

Director Byrnes proposes that Congress be "streamlined," principally by reducing the number of its committees.

A Retrograde Proposal

In the abstract, this is the remedy for legislative deficiencies which must be applied; but Mr. Byrnes does not conceive of transportation as a peculiarly complex function calling for special understanding—largely because of its being, in part, a regulated "monopoly," and to a considerable degree deriving its capital funds from taxation. Instead, he would transfer the transportation regulatory functions now performed by the interstate commerce committees to an enlarged commerce committee having jurisdiction over unregulated business as well, and hence holding out no hope of mastering the complexities of transportation. Appropriations for highways and waterways Director Byrnes would entrust to a public works committee, which, covering such a wide range of subject matter, would have even less chance of comprehending the effect of its actions on the nation's over-all transportation economy than do the specialized committees now responsible for highway and waterway development.

A more logical "streamlining"—and the only such plan likely to remedy the ills of transportation—would be to transfer all transportation functions to the interstate commerce committees, reconstituted to include veteran members who have made themselves authorities in the work of the other committees now dealing with transportation.

The foregoing analysis is not ours alone, but is in substantial accord with those of many of the nation's most competent transportation men. What is needed, however, is action. Everybody who knows the facts knows that desultory discussion of these questions has gone on too long, and that outright government ownership of the railroads may be the outcome if such discussion without appropriate action is much longer continued.

Let us, therefore, have more frank expressions from railway executives who agree with Messrs. Budd, Metzman and Gurley. Let us hear from leaders among shippers, investors, organized labor, regulatory authorities, and independent students of transportation. Especially, let us hear from such informed leaders in government as Congressman Lea, Senators Wheeler and Reed, and Maj. General Gross. The danger of government ownership during and following the last war aroused the constructive leadership, discussion and action which resulted in passage of the Transportation Act of 1920. Equally constructive leadership, discussion and action are now needed again, and should soon be forthcoming.

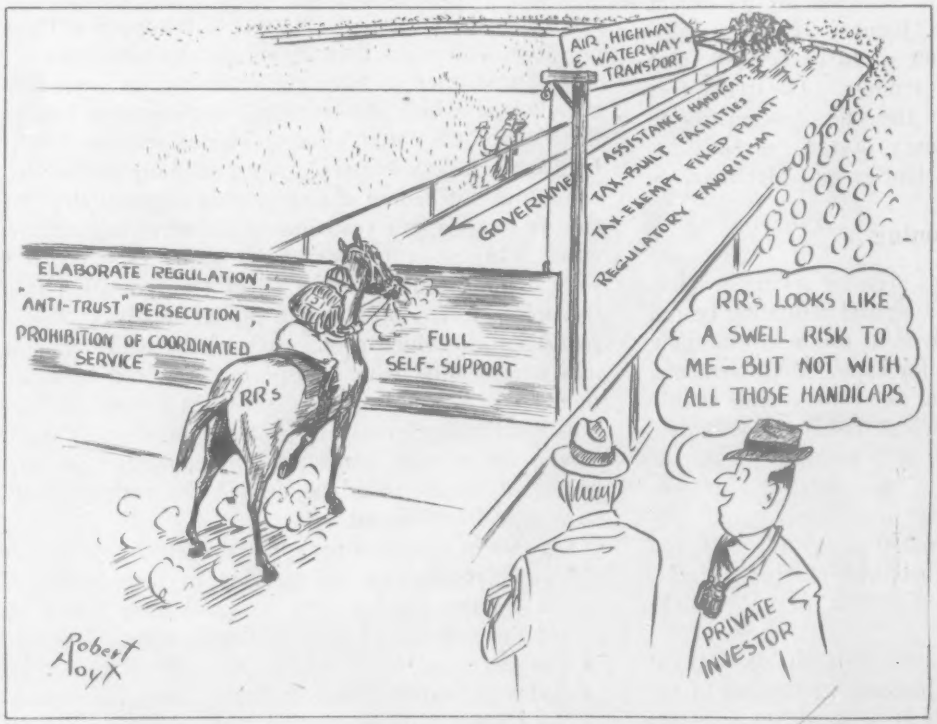
Aluminum on the March

A reduction of 25 per cent in the cost of ingot aluminum compared to pre-war levels and the fact that its characteristics and advantages now are much more widely known, comprise two of the principal indices that point to greatly expanded civilian markets for the light-weight metal after the war. Last year saw the aluminum industry well over the hump in supplying the war needs of the United States and the United Nations. In fact, aluminum production is so well in hand that it was possible to close down several government-owned aluminum plants, thereby releasing thousands of workers for the production of other critical materials.

Aluminum now is being produced at a rate three times faster than the peacetime peak. During 1944 the metal was used in ever-increasing quantities for numerous new military applications.

By reason of increased production, not only was aluminum reapplied to many military uses for which other previously less critical materials had been substituted, but aluminum also was substituted for many other materials which in the meantime had become much more critical. From the present outlook more and more aluminum will be used for civilian and semi-military purposes.

The Best Horse, But Still Not the Favorite



The O. D. T. Racing Ban, Unfortunately, Doesn't Extend to This Type of Event

Outstanding railroad uses of aluminum during 1944 included the trial hopper cars ordered by the Missouri Pacific, a trial hopper with aluminum sides and ends placed in service by the Burlington, and a trial box car built with aluminum siding and placed in service by the Great Northern. In disposing of surplus aluminum stock left in military stores, the Navy utilized aluminum sheets for siding and roofing warehouses. Semi-military uses saw the introduction of aluminum airplane landing mats, weighing approximately half as much as other metal types, and the development, for aerial transportation, of aluminum gasoline drums weighing 21 lb. each as compared to 52 lb. for those of other materials.

New manufacturing developments during 1944 included a number of new alloys which are not only of considerable military value but which also may be fully as significant to our peace-time economy. One of these new alloys has almost twice the yield strength of older aluminum alloys, and an ultimate strength of more than 80,000 lb. per square inch.

The year's end saw the completion and commercial adaptation of Alcoa's new process designed to use the more abundant low-alumina, high-silica domestic ores. Thus, as the result of more than 25 years of careful research, the new process makes the United States' aluminum supply independent of any foreign source, although at this stage the process probably is too expensive for peace-time markets. Low grade ores, which a short time ago were considered of little or no commercial value, now hold good promise for the future: laboratory efforts are being continued to make the process more efficient.

Significant too is the impetus that has been given to aluminum by the series of W. P. B. authorizations during the last half of 1944, allowing its use in place of more critical materials for the production of urgently needed civilian supplies. The list includes truck and trailer bodies, collapsible tubes, containers, tanks, motorcycles, electrical wiring devices, refrigerators, laundry equipment, phonographs, furniture, paint, power tools, engineering instruments and industrial lighting equipment.

Peace-time probabilities are that aluminum is destined to play a more prominent part in the composition of a large proportion of the 77,000 items that comprise the normal railway shopping list.

Modern Local Trains

During the decade of streamliners which began in 1934, railway main line passenger service was practically revolutionized, to the tune of the jingling of the railway cash registers as the earnings per train-mile began and continued their upward trend. Local trains showed little or no improvement in appearance or schedules, and the revenues derived from them continued to decline. Wherever possible, it was the policy of most railways until the war began to take off such service.

On the Minneapolis & St. Louis passenger traffic has never produced an important part of gross earnings. Therefore, the recent order placed by this railway for six modern, lightweight, streamlined, air-conditioned coaches produced considerable comment, and inquiries as to where a streamlined train could be run profitably on the M. & St. L. Actually, these coaches are not intended to be operated as one train, but will be used in an interesting experiment to modernize local passenger service. The M. & St. L. operates three local train services, now protected by a rail motor car with a coach-trailer in each case, between Minneapolis and Watertown, S. D.; Minneapolis and Des Moines, Iowa; and Minneapolis and Albia, Iowa. The coaches used as trailers are old and not air-conditioned, and it is intended to use the six new cars as coach-trailers on each of the three runs in each direction.

While the Burlington, among other railways, has used some of its smaller Zephyrs in semi-local service on several portions of its line, this proposed service will be the first experiment made to determine what modern equipment, operated as individual cars, can do in rehabilitating local passenger traffic. With the volume of post-war passenger traffic depending upon so many variable factors, it is impossible to predict with any degree of confidence what its volume will be on any railway; and every experiment made for the purpose of increasing it will be watched with interest.

Present Signaling Needs

During the past three war years the manufacture of signal equipment has been restricted and very few trained signalmen have been available for construction work. When the need for war materials slackens, so that more signaling equipment can be manufactured, the railroads should plan to use this apparatus to the best advantage and yet require a minimum of construction work until such time as more signalmen are available. In order to conform to this limitation, an advisable practice may be to replace equipment in kind at the existing locations. For example, old worn-out switch machines can be replaced with new ones, without making other changes excepting perhaps the installation of a few new track ties. Likewise switch circuit controllers on hand-throw switches can be replaced easily. Old relays can be installed without requiring any other new materials. Antiquated semaphores can be replaced with modern light signal heads, the change requiring that the old mechanism be removed, the mast cut off, the new head applied, and the wiring changed.

On many railroads there are numerous items of signaling equipment which, as indicated, are now worn beyond the stage of economical repair. During the depression years replacements were postponed. Starting with the preparedness program in 1940, and continuing through the three war years, materials and manufacturing facilities have not been available for replacements. As a consequence, much signal equipment has been patched and continued in service for five to eight years beyond its normal service life; and due to the heavy war-time traffic the rate of wear has been faster than in ordinary years. Unless extensive replacements are made soon, failures may occur which will result in needless delay to trains, and thus hinder war-time transportation.

Lightweight Hoppers after Ten Years

Baltimore & Ohio hopper-car bodies of six different materials are still in good condition

DURING the years 1934 and 1935 the Baltimore & Ohio designed, built, and placed in regular service 10 lightweight freight cars. These were built of a variety of the materials for lightweight construction which were then available—aluminum, USS Cor-Ten steel, USS Man-Ten steel, Rustless iron*, Plykrome steel, Republic double-strength steel, and Alan-Wood 70-90 steel. The description of the aluminum car appeared in the *Railway Age* of August 25, 1934, page 233; the others were described in the April 27, 1935, issue, page 646.

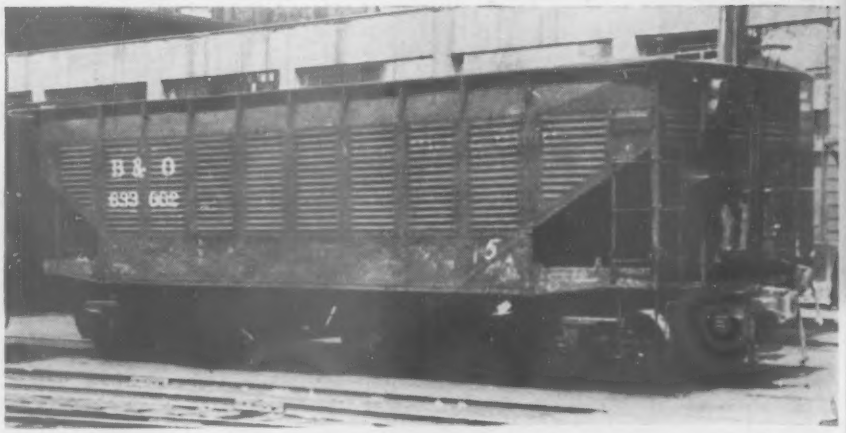
Frequent Inspections

After they were built the lightweight cars were restricted to movement on the B. & O. for three years and then released for regular interchange service without any restrictions being placed on them with respect to lading. Frequent inspections, together with maintenance costs, indicated the performance of the experimental cars was comparable to those of conventional construction, but it was the opinion of the mechanical department that the value of the experiment rested in having the car subject to normal use for a period of at least ten years before any findings of real worth could be developed. There is no evidence that the cars have required unusual maintenance expenditures and the table shows the most recent reports made of the condition of the hopper cars and a covered cement car which have been inspected within the past year.

It is expected that the policy of the railroad with respect to the purchase of freight car equipment when a free choice among structural materials can be made will be appreciably influenced by the service record of the experimental lightweight cars. A recent purchase by the B. & O. of standard type equipment does not reflect any dissatisfaction with the materials or service record of cars of light-weight construction. Planning and purchase orders for this addition to the company's car inventory were initiated at a time when no aluminum or alloy steels were being allocated for railroad freight-car construction.

The inspections which have been made of the hopper cars, the only class which is now being followed closely, disclose that, in general all of the materials chosen for test have been satisfactory. Final service life is indeterminate and it is not possible now to estimate which

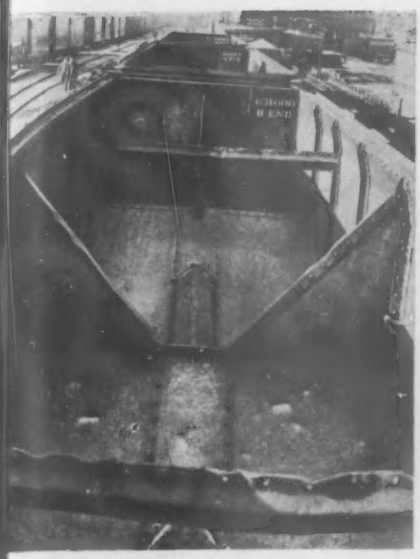
* Although referred to as Rustless iron, this product of the Rustless Iron & Steel Company, Baltimore, Md., is a low-carbon hot-rolled unpickled steel with a chrome content of about 11 per cent.



Present Exterior Appearance of the Car Body Built of Rustless Iron—This Car Had a Center Sill of USS Man-Ten Steel and Other Underframe Parts Were of USS Cor-Ten

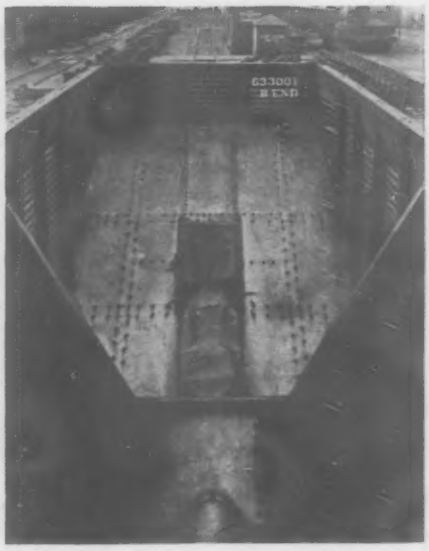
Present Exterior Appearance of the Car Body Built of Plykrome Steel—The Center Sill and Underframe of the Car Were of USS Cor-Ten

Present Exterior Appearance of the Car Body Built of USS Cor-Ten Steel—The Underframe and Center Sill of This Car Were Also Built of Cor-Ten



Present Interior Appearance of Aluminum Hopper-Car Body

Present Interior Appearance of the USS Cor-Ten Hopper-Car Body



Present Interior Appearance of the Plykrome Steel Hopper-Car Body

will have the longest life. All have been in service for ten years which is the service-life period expected from the plain steel bodies now being applied to standard hopper-car equipment before major repairs are necessary.

The car which was built of aluminum has never been painted and shows only minor traces of corrosion in the form of pitting on the lower section of the floor sheets. The plate thickness is such that it can be said that any corrosive influence resulting from bituminous coal ladings has been negligible. Abrasive wear has been slight. This car, of inside stake construction, was built using wrought aluminum of the 525¼H alloy composition for body parts. Of further interest is the fact that there is no evidence of deterioration from electrolytic action, although the car was assembled by the use of hot-driven steel rivets. Several of the side stakes and cross-ridge-bottom angles required removal because of deterioration. A laboratory analysis of these parts disclosed that deterioration had occurred as a result of overheating which took place during application.

The car bodies built of USS Cor-Ten steel plate are also in excellent condition and show no pitting or corrosion. There is no evidence of abrasive wear. The general condition of the body of the double-strength steel car is very good although corrosive deterioration at the bottom of the side stakes and of the cross ridge sheet has appeared. On this car it was necessary to renew the hopper sheets and hopper door sheets after nine years of service.

The Plykrome steel body shows corrosion damage on the door angles, hopper reinforcements, side stakes and cross-ridge sheets. In addition, the bottom floor sheets have sagged and the floor stiffeners are weakened and bent. The general condition of the sheets, and pressings made from sheet, is otherwise good. Corrosive wear on the Rustless-

(Continued on page 190)

Report of 1944 Inspection of B. & O. Lightweight Hopper Cars

Car No.	Class	Material: Body	Material: Underframe	Condition
631000	N-28—open top	Aluminum	Aluminum	Body, underframe and trucks in excellent condition and for a car 10 years old shows very little deterioration. Slight pitting on bottom of floor sheets only. Car was given minor repairs, cleaned and returned to service in excellent condition. Car has never been painted but is stencilled only.
633000	N-30 open top	Cor-Ten	Cor-Ten	General condition excellent. On A-end, car has broken hood which evidently occurred some time ago due to this end of car sustaining severe shock. Car was given minor repairs and returned to service in excellent condition for a car 10 years old.
633003	N-30a open top	Republic double-strength steel	Man-Ten	General condition of body, underframe and trucks very good with exception of side stakes which are corroded at bottom, also slight corrosion of side sheets at top rivets of inside steps. Cross ridge sheets deteriorated from corrosion. Center sill has small reinforcement welded at coupler key slot at BL location account of being cracked. Inside and outside hopper sheets and hopper doors were renewed at Keyser, June 18, 1943. Necessary repairs will be made before releasing from Keyser shop.
630200	N-31 covered	Allan Wood steel	Man-Ten	Body, underframe and trucks in excellent condition and show very little deterioration. Car had been in accident and was repaired at Keyser in December, 1943. However, all repairs required at that time were the result of this accident. Car will be cleaned and returned to service.
632000	N-29 open top	Cor-Ten	Cor-Ten	Body, underframe and trucks in excellent condition, and for a car 10 years old shows very little deterioration, there being no pitting nor corrosion. This car will be returned to service immediately.
633001	N-30a open top	Plykrome	Cor-Ten	General condition of body, underframe and trucks good with exception of bottom floor sheets which are sagged and floor stiffeners weakened and bent. Center floor sheets loose at hood. Door closing angles deteriorated and hopper reinforcements corroded. Side stakes corroded at bottom. Cross ridge sheets deteriorated. No indications of car having received heavy repairs since built. Car will be given necessary repairs and returned to service.
633002	N-30a open top	Rustless iron	Underframe—Cor-Ten center sill—Man-Ten	General condition of body and underframe good. Side stakes are corroded at bottom and longitudinal hood pulled away from cross ridge sheet A-end account of rivets pulled out and metal torn. Cross ridge support damaged and corroded. Bottom door closing angles broken and deteriorated. Center sill top cover plates bent on both ends account of striking bolster castings. Trucks in need of general repairs. Car has not received general repairs since built. Necessary repairs will be made and car returned to service.

F. E. C. Reorganization Plan

Commission approves modified capitalization but rejects A. C. L. bid for stock control

WASHINGTON, D. C.

A MODIFIED plan for the reorganization of the Florida East Coast under section 77 of the Bankruptcy Act, providing for somewhat larger total capitalization than the 1942 plan, which was rejected, in part, by the court, and for payment in cash of the old first mortgage bonds, has been approved by the Interstate Commerce Commission. At the same time, the commission dismissed the petition of S. A. Lynch and others, which was supported by the Atlantic Coast Line, for reopening the proceedings in order that an alternative plan of reorganization might be considered, the effect of which would be to allow the A. C. L. to purchase 60 per cent of the common stock of the new company, and so to acquire control of it.

The essential provisions of the commission's 1942 plan were noted in *Railway Age* of April 18, 1942, page 795. In brief, it provided for distribution of new first mortgage bonds to holders of old first mortgage bonds, and for distribution of new general mortgage income bonds and common stock to holders of old first and refunding mortgage bonds. Stock of the old company was held to be without value, and no provision was made for unsecured claims. This plan was rejected by the court as inequitable and not affording due recognition to the rights of minority security holders, particularly in view of accumulations of cash not distributed under the plan because they had not been foreseen at the time the record was originally closed.

St. Joe Paper's Control

When the commission reopened the proceedings, it found that the St. Joe Paper Company (which is controlled by the Alfred I. duPont estate) held $23,259,000 of the old company's $45,000,000 issue of first and refunding mortgage bonds, the holders of which, under the 1942 plan, would have been allotted all of the new company's stock, thus giving St. Joe Paper control of the new company.

Various proposed plans of reorganization were submitted to the commission in May, 1944, including one by St. Joe Paper and one by S. A. Lynch and certain other minority holders of old first and refunding bonds. Subsequently, after the case had been closed, Lynch and others petitioned the commission to consider still another plan, the essential provisions of which were noted in *Railway Age* of November 18, 1944, page 798.

This plan would have effected an arrangement whereby the A. C. L. would buy 60 per cent of the common stock of the new company from the old first and refunding bondholders, thus securing control of the new company for an outlay of $3,600,000 and assumption of liability, as guarantor, up to $720,000 annually for interest and sinking-fund charges on a new $16,000,000 fixed-interest first mortgage bond issue, which would have been the new company's only interest-bearing securities, aside from equipment obligations. In addition to the new common stock, there would have been a $15,000,000 issue of preferred stock, the holders of which would have been entitled to elect one-third of the board of directors, thus not affecting the ability of the A. C. L. to control the new company under this plan.

Purchase by A. C. L. Disliked

The comment of C. McD. Davis, president of the A. C. L., in general support of this proposal, was noted in *Railway Age* of November 25, 1944, page 834. However, St. Joe Paper petitioned the commission not to consider the Lynch proposal, arguing that it had been submitted out of order and that the A. C. L. guaranty would be "worthless" in depression years and "unnecessary" at other times. It argued further that the court was without authority to order sale of the interests of one or all of the creditors to an outsider for the benefit of the purchaser, particularly when the proposed sale was negotiated without the knowledge of the principal creditor. It indicated that it would vote to reject a reorganization plan containing such a provision.

While expressing the view that it had jurisdiction to consider the Lynch proposal, the commission was impressed by some of the objections offered. Having reached the conclusion that the new company's capitalization should include no fixed-interest securities (except equipment obligations), in view of the arrangement whereby old first mortgage holders will be paid off in cash, it did not like the proposal that a new fixed-interest bond issue be approved, even with the A. C. L. as guarantor of interest and sinking fund charges.

Expressing the view that such an arrangement "would result in an unwise increase in the fixed charges of the Coast Line," the commission went on to say that the arrangement might, in a lengthy depression, "contribute towards precipitating bankruptcy proceedings for both carriers even taking into consideration the possibility that certain economies might result from a common operation of the two lines." Continuing, the commission said, "While we have expressed a conviction that consolidations of railroads under certain conditions are desirable in the public interest, the effect should be of reducing rather than increasing the fixed charges of the carriers involved."

No Fixed Debt

As already stated, the modified plan provides that the old first mortgage is to be paid in full in cash. While the total capitalization under the 1942 plan was $37,000,000, including $12,000,000 in first mortgage bonds, $4,500,000 of general mortgage contingent-interest bonds, and $19,834,000 in common stock, plus undisturbed equipment obligations, the total capitalization under the modified plan is increased to $41,166,000. It provides for no fixed-interest debt, however, except equipment obligations, which total $666,000. The $40,500,000 remaining is divided equally into $20,250,000 of new 75-year first mortgage 4½ per cent income bonds and $20,250,000 of common stock, stated at $100 per share.

All of these new securities are to be distributed pro rata to holders of the old first and refunding bonds (outstanding in the principal amount of $45,000,000), who also are to participate in a distribution of cash available after paying off the old first mortgage bonds and setting up an $8,700,000 reserve for working capital and improvements (including the proposed Fort Pierce cut-off). The amount of cash available for this distribution was estimated as about $1,137,000, but the exact amount to be distributed is left to the court's discretion.

The commission reaffirms its earlier finding that unsecured creditors and equity holders in the old company are not entitled to participate in the reorganization. Under its 1942 plan, annual charges before dividends would have totaled $1,014,555, including $450,000 fixed interest on first mortgage bonds and $19,555 on equipment obligations. Contingent charges would have included $202,500 general mortgage bond interest, $260,000 capital fund appropriation, and $82,500 sinking fund payment. The new plan calls for a larger total of annual charges, $1,292,055, but fixed charges are only $19,555 on equipment obligations. The same capital fund appropriation would be included in contingent charges, but sinking fund payments would be increased to $101,250 and first mortgage bond interest would require $911,250.

Control Not Disturbed

The effective date of the new plan is January 1, 1946. Its result is to wrest control of the new company in St. Joe Paper. While it provides for a 5-year voting trust, St. Joe is to name two voting trustees, with the court naming a third to represent the minority first and refunding bond holders. The minority trustee is entitled to name one-third of the board of directors. Upon approval

(*Continued on page 192*)

Ingenuity Marks Bridge Renewal

Pennsylvania replaces 40-year-old through-truss structure over Potomac at Washington with girder spans under highly difficult traffic conditions

A Portion of the Bridge During the Renewal Work—The Truss Span in Foreground Is Being Dismantled—Note Temporary Floorbeams Hung from New Girders

OVERCOMING engineering and erection problems of an unusually difficult nature, the Pennsylvania recently renewed its 2,529-ft., 40-year-old double-track "Long Bridge" across the Potomac river at Washington, D. C., which links its southern terminus at this point with its connecting lines on the south side of the river. Completion of the new bridge has made possible the lifting of speed and weight restrictions that had long constituted a troublesome factor in the movement of trains across this important structure, restrictions which became increasingly onerous with the growth of war-time traffic to record proportions. Through the use of ingenious expedients of design, erection and foundation construction, the road was able to rebuild the bridge under traffic on the existing alinement without interfering with the movement of regularly-scheduled trains.

Prior to the recent work, the bridge was composed of 11 fixed through-truss spans and one center-bearing drawspan located between the seventh and ninth spans from the north end. Six of the fixed truss spans were 210 ft. 9 in. long, center to center of the end pins; three were 198 ft. 9½ in. long, and two were 165 ft. long, while the drawspan was 280 ft. 6 in. in length. All the fixed spans consisted of pin-connected through-Pratt trusses. Ten of them had seen prior service in a bridge across the Delaware river at Trenton, N. J. Five of these latter spans were of wrought iron, built in 1892, and five were of steel, built in 1898. Because of a line change these ten spans were dismantled in 1903, and in the following year they were re-erected in the Potomac river bridge. Only one of the 11 fixed spans in the latter bridge was new at the time the structure was built, this span being erected in 1905. The drawspan was also built new in that year. All the spans were carried on stone masonry piers and abutments.

Stronger Bridge Needed

The floor systems of the trusses incorporated a double line of stringers of the plate-girder type under each track, which framed into built-up floorbeams at the panel points. These latter members, in turn, were hung from the lower ends of the truss verticals which projected somewhat below the pin connections for the lower chords and the diagonals. The trusses had either seven or nine panels, and the panel lengths were either 22 ft., 23 ft. 5 in., or 23 ft. 6½ in. As this is electrified territory, catenary wires were provided, which were hung from overhead cross members at the panel points.

Because of increase in wheel loads the bridge had become incapable of carrying present-day traffic at normal speeds, and it had become necessary to restrict speeds to as low as 15 m.p.h. for some types of traffic. Since the number of trains moving over the bridge totaled as many as 260 daily, its replacement with a more modern structure became desirable. Because of the importance of the structure in the war-time transportation picture, the necessary authority, together with adequate material priorities, were granted by the War Production Board. Being of a heavier design than the fixed spans, the drawspan is capable of carrying present-day loads and, hence, this part of the structure was not included in the reconstruction program.

In making plans for reconstructing the bridge various schemes were given consideration. Because of the cost involved it was desired, if possible, to avoid constructing an entirely new bridge on a different alinement, but any plan for renewing the structure on its existing alinement was subject to the stipulation that it was not to involve the cutting of the tracks at any time.

Plan of Renewal

The plan adopted called for replacing the old bridge with a through plate-girder structure in which the spans, half as long as the old trusses, would be supported on the existing piers and on new piers placed midway between the old ones. But the manner in which the load was transferred to the new girders comprised the outstanding phase of the plan. In essence, this was accomplished by (1) placing the new girders in position on the piers outside the old trusses; (2) supporting the existing floor system on temporary floorbeams hung from the new girders; and (3) introducing new floorbeams on the locations of the old panel points and midway between them, retaining the existing stringers, of which the span lengths were thus reduced 50 per cent.

All the work was performed without

Showing One of the Open-End Cofferdams, with Its Beam Grillage, Being Floated Into Position for Installation

This View Shows One of the Cofferdam-and-Beam Assemblies Being Lifted from a Scow into Position on the Footings

interfering with the movement of regularly-scheduled trains over the bridge. There was only one major step in the procedure that could not be carried forward under traffic or during the brief periods between trains that normally prevailed. This was the operation involved in transferring the load from the truss spans to the new girders and their temporary floorbeams by the cutting of the top chords and the diagonals, which required about 50 min. for each of the 11 trusses. A time-card analysis revealed that there was an interval between trains during the afternoon of the required length to permit this operation also to be performed without interference with scheduled trains.

The New Piers

The first step in the project was the construction of the new piers, of which 11 were required. As already noted, these were placed midway between the existing piers throughout the length of the bridge except, of course, at the drawspan, which was not disturbed. Because of their unusual design and the methods employed in constructing them, these piers comprise a story in themselves. In designing the piers it was desired to support them on steel H-section piles but, because of the limited underclearance, it was not practicable to employ a design that called for driving foundation piles within the limits of the existing superstructure.

This problem was overcome by developing a pier design in which the shaft of each pier spans between two footings, placed outside the limits of the old superstructure, each of which consists of a cluster of 26 H-section piles surmounted by a concrete cap. Since the clear opening between each pair of these footings is about 36 ft., special provision had to be made in the design of the pier shafts to give them the necessary beam strength to span the openings. This was done by incorporating in the base of each shaft four 36-in., 280-lb. wide-flange beams, arranged in pairs, in each of which the beams are placed one on top of the other, the edges of the contacting flanges being welded together.

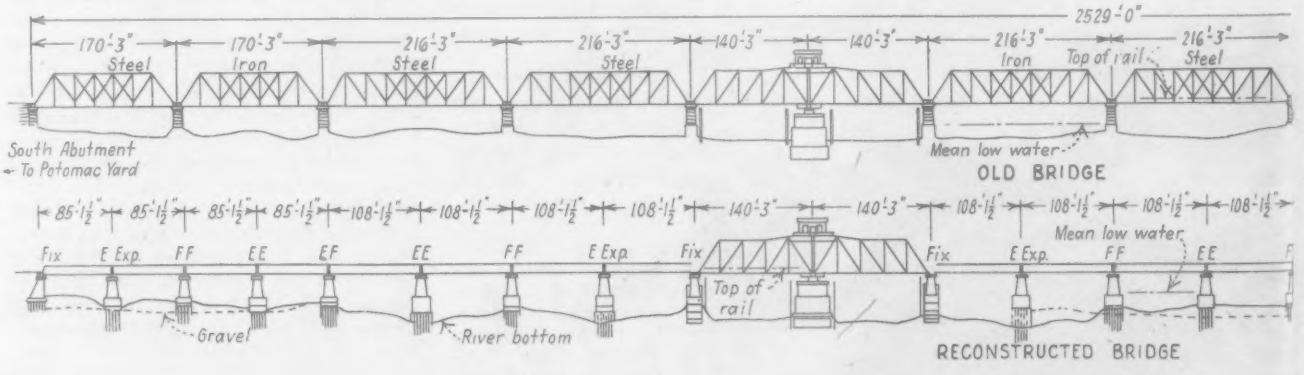
In constructing each pier, unstable material was first dredged from the river bottom at the locations of the footings, after which the steel bearing piles, consisting of 14-in. by 14½-in., 73-lb. H-sections, were driven inside temporary steel sheet-piling cofferdams, each incorporating a coffer ring. They were driven with an 11B3 McKiernan-Terry hammer until 56 blows were required to obtain a foot of penetration, thereby obtaining a calculated bearing value of 55 tons per mile. Each pile was capped at the cut-off level with a length of H-section of the same weight, which was welded in place.

When the piles had been driven the bottom of each cofferdam was sealed with concrete placed with a tremie, after which it was de-watered and the remainder of the concrete cap placed in the dry. This concrete was carried up to a level three feet below mean low water. In the top surface of each cap provision was made for keying it to the pier shaft, and also a series of 1½-in. rods were cast in place in each footing for anchoring the grillage beams.

How Beams Were Placed

Because of the size and weight of the beam grillages to be incorporated in the lower part of each pier shaft, the matter of placing them in position on the pier footings preparatory to constructing the shaft presented a difficult problem. Furthermore, since the bottom of each pier shaft was several feet under water, a related problem was to provide a cofferdam around the lower part of the shaft to permit the masonry work to be done in the dry. To accomplish these ends an expedient was adopted which involved assembling the beam grillages for each pier shaft on the deck of a scow and placing in position around them an open-end wood cofferdam, or "flume," as it was called. The floor of this cofferdam represented the underside of the pier shaft, and the beam grillage was raised above it the required amount by means of concrete blocks which were later incorporated in the pier shaft. To insure that the floor of the cofferdam would be held in the proper position relative to the grillage, a series of steel hanger rods was installed, the rods being hung from steel yokes placed across the tops of the beams. The lower ends of these rods were enclosed in pipe sleeves.

Preparatory to installing one of the beam grillages with its attached cofferdam, timber end panels for the cofferdam were set in position on the pier footings at the particular location, after which the temporary steel sheet piling around the footings was removed. The scow carrying the beam grillage was then floated into position beside the pier location. Using two revolving cranes on scows, one on each side of the bridge, the beam grillage and cofferdam were lifted into the proper position on the footings. To render the cofferdam watertight wood shims were driven between the ends of the floor and the faces



of the footings and vertical timber strips were placed to close the joints between the side walls of the cofferdam and the end panels. Because of the buoyancy of the cofferdam it was necessary to anchor it in position, which was done by means of bolts embedded in the concrete caps of the footings.

Building the Pier Shafts

The cofferdam was then de-watered to permit work to proceed on the construction of the pier shaft. In this work a form was built inside the cofferdam for the lower portion of the shaft and concrete was placed to a depth of about two feet. When this concrete had set the hanger rods carrying the cofferdam floor were removed, this being the reason why the lower ends of these rods had been enclosed in pipe sleeves. These sleeves were then filled with grout, after which the remainder of the pier shaft was built up progressively by placing a few courses of masonry facing blocks and using them as forms for the body concrete. Granite blocks were used for the facing, which were laid up in such a manner as to harmonize with the existing piers. When four courses of the facing stones had been placed, bringing the work well about the water level, the cofferdam was removed for use in a subsequent operation.

The new piers also serve as foundations for catenary poles. These consist of H-section beams, and one of them is placed at each end of each pier. Catenary poles are not provided at the old piers.

Features of Girder Spans

The design of the new girder spans of the bridge was influenced by a number of considerations, including the manner in which they were to be erected and the further fact that they were to incorporate the existing stringers. To permit them to be placed outside the old trusses, the girders were spaced 36 ft. 6 in. apart, center to center, as compared with 28 ft. 8 in. for the trusses. While the existing stringers were retained, the old floorbeams, located at the panel points in the trusses, were replaced with new members, except those at the extreme ends of the trusses, which were retained as struts, being provided with supports at the stringer points, and which were extended as necessary to connect with the new girders by means of structural cross frames. To permit the old stringers to be retained, their span lengths, averaging about 23 ft., were reduced one-half by inserting new floorbeams midway between the old panel points.

Since those ends of the new girders over each new pier are at the mid-point of the old span, they are also at the mid-point of the center panel of the trusses. This means that the center panel of stringers in each truss had to be severed in the middle to permit the halves to be incorporated in the separate girder spans. The structural treatment accorded the severed ends of the stringers at these locations was to support each of them on a shoe in the form of a steel casting (these shoes in turn resting on a concrete seat or pedestal placed on top of the new pier), and to install a system of cross bracing between each pair of stringers, between the two inner stringers and between the outer stringers and the girders.

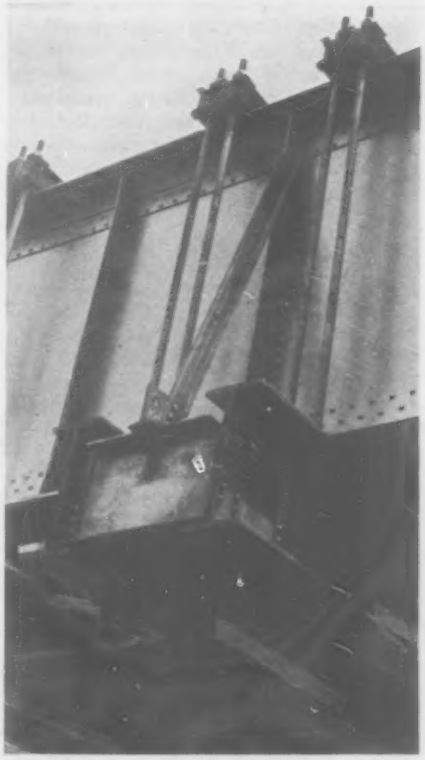
Pier and Abutment Work

At the ends of the new girders at the old piers, where the existing end floorbeams were retained, bearings were installed under each of these floor beams at the four stringer connections in the form of steel shoes placed on concrete blocks resting on the top surface of the old pier. The top surfaces of the old piers were also altered to receive the bearings for the new girders, these piers, fortunately, being of sufficient dimensions for this purpose without major alterations. At the southerly abutment, which is of the wing-wall type, it was possible to support the girders on the existing bridge seat, although it was necessary to cut shallow recesses in the backwall at the girder locations to permit this to be done. The only other alteration required at this abutment was the provision of a concrete pedestal block to support the bearings for the end floorbeam.

However, at the northerly abutment, which is of the U-type, the existing bridge seat was not of sufficient length to accommodate the new girders, and it was necessary to make extensive alterations to provide the required bearing area. Briefly, this was done by incorporating in the existing abutment behind the bridge seat an arrangement of needle beams, encased in concrete, which project the necessary distance beyond each end to provide supports for the girders.

Erecting the Girders

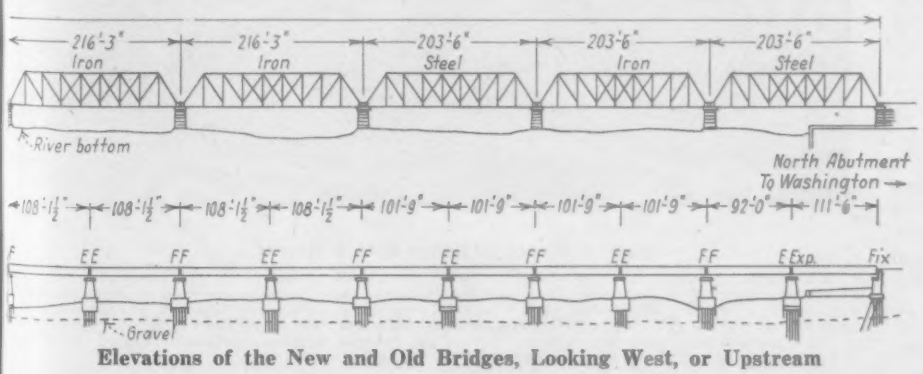
The manner in which the new superstructure was erected provided the most outstanding feature of this undertaking. The following description of the procedure followed will be confined to an outline of the steps involved in replacing one of the truss spans with two of the new girder spans, although it should be understood that at times certain of the steps were in progress throughout several truss spans simultaneously. The renewal work was started at the southerly end of the bridge and was carried forward progressively to the north end.



Close-Up View of One of the Temporary Floorbeam Assemblies

Steps preliminary to the actual renewal work included the erection of the catenary poles, and the placing of the bearing plates and the lower shoes for the girders, the latter being tack-welded to the base plates. Next, the new girders were erected and shored in position, using floating cranes, after which the work of welding the lower shoes to the bearing plates was completed. Following this the temporary floorbeams on which the floor system was to be carried during the transition period were erected.

As already indicated, a set of these beams was hung underneath the girders at each of the truss panel points and at



Elevations of the New and Old Bridges, Looking West, or Upstream

the mid-points between them, that is, at the locations of the new permanent floorbeams. Each set of the temporary beams consisted of two 36-in., 280-lb. wide-flange beams, placed on 3-ft. centers in such a manner that the permanent floorbeams could be raised into position between them. The temporary floorbeams in each pair were separated by three diaphragms, one at the center and one at each end, of which the one in the center was removed temporarily during the placing of the new floorbeams. Each set of temporary floorbeams was suspended from the top flanges of the girders by a series of 2½-in. rods extending at their upper ends through a yoke arrangement on top of the girder and at their lower ends through the top and bottom flanges of the wide-flange beams. Temporary lateral bracing was provided between the pairs of temporary floorbeams.

Next, a series of pedestals, consisting of sections cut from 14-in. wideflange beams, were placed on the temporary floorbeams at all stringer locations for use in blocking up the stringers. Shim plates for use in connection with these pedestals were then distributed.

In the meantime the work was under way of drilling holes in the stringer webs at the mid-points of all except the middle panel of the truss, these holes to be used for fastening the temporary cross-frames that would be needed at these points after the stringers had been severed in preparation for installing the new floorbeams. Also, at the center of the middle panel of the truss, holes were drilled in the stringers for fastening the new cross-frames to be installed at this location. That part of this cross bracing between each pair of stringers was then installed.

Transferring the Load

With the pedestals in place on the temporary floorbeams, and the necessary shims either in place or in position for insertion, preparations were complete for transferring the load from the truss span to the two girder spans. As already indicated, this operation required about 50 min. and was performed during an afternoon period between trains. As the first step, after obtaining use of the track, the remaining shims were placed to block up the stringers at the existing dead-load profile. It should be noted here that at the new pier the stringers were blocked up on the new shoes and that at the old piers the stringers were still carried on the existing end floorbeams. The load was then transferred to the new girders by cutting both top chords of the trusses at the middle of the center panel and by severing all the truss diagonals. Traffic could then be resumed. Next, six-inch sections were cut from all the old stringers in the center panel at a point between the new sets of cross bracing over the new pier, and the bottom chords in the center panel of the trusses were cut to permit expansion to occur only at the new pier. The old trusses could then be cut into sections and removed, which was done in accordance with a definite procedure, using floating cranes to handle the severed members.

100,000 Holes Drilled

Meanwhile the work had been going forward of drilling holes in the stringer webs near the centers of the panels for connecting the stringers to the new floorbeams. Incidentally, it was estimated that this project required the field drilling of about 100,000 holes. A pair of temporary cross frames was then placed at the center of each stringer panel, and at a point between each set of them a cut was made through the top flange and web of each stringer, down to the bottom flange, and a wedge was inserted in each cut at the top flange. It should be remembered that, up to this point, the stringers still remained at the original profile. The next step was to adjust the stringers to the camber of the new girders by packing as necessary, and to bring them to rest on the permanent shoes at the new pier and onto the new shoes under the old floorbeams at the old piers, this work being done panel by panel under traffic. With the stringers at their final elevations, relative to the girders, the remaining cross-frames over the new pier could be placed, and the bracing could be inserted to connect the old end floorbeams with the new girders. The work could then proceed of completing the cutting work at the mid-points of the stringers and of inserting the new floorbeams at these locations.

Next the temporary cross-frames were removed to locations near the old floorbeams and these beams were cut out and replaced with the new floorbeams. This was the final major step, and after it had been finished and the lateral bracing placed, the two girder spans were complete units, capable of taking the full load. Hence the temporary floorbeams could be removed and carried forward to the next set-up. Incidentally, sufficient of these beams were furnished to support the floor system throughout two truss spans so that the work of renewal could be proceeding on two such spans simultaneously.

In this project the work of renewing the superstructure, from the day the first new steel was placed until the last rivet was driven, was carried out in slightly less than four months.

Lightweight Hoppers

(*Continued from page 185*)

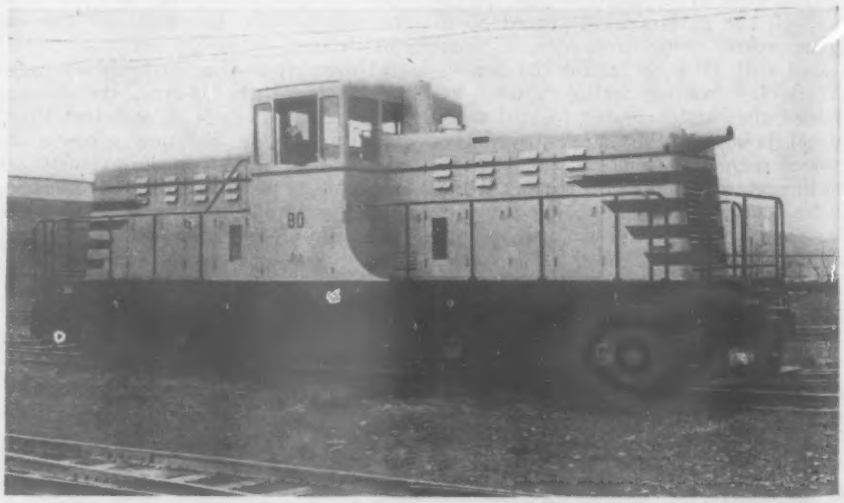
iron car is found on the bottom of the side stakes and the cross-ridge support and door closing angles. Abrasive and corrosive wear elsewhere is not measurable.

The cement-car body constructed with AW 70-90 steel is in excellent condition with very little evidence of deterioration.

All non-aluminum cars, when built, received a coat of standard railroad primer and two color coats of gray freight car paint. Bodies and underframes received the same paint treatment. Since that time at least one additional coat of black paint has been applied to the hopper-car bodies.

None of the center sills or underframes give signs of deterioration or deformation, except one center sill of Man-Ten steel in which a small crack near the coupler key slot required repair. The aluminum center sill and underframe were built of the 17ST alloy; various units of the other cars were of Cor-Ten, Man-Ten or a combination of the two.

* * * *



A Diesel Switcher Sets a Record

This 500-hp., 80-ton G-E Diesel-electric switcher, which was delivered to the Longview, Portland & Northern Railroad in December, 1943, is doing almost as much work as the three steam locomotives with which it works. It handled 60,310 cars in 608 shifts during the first ten months of 1944, as compared with 67,911 cars in 740 shifts handled by all three steam engines during the same period in the same location. According to a report from the railroad company, the availability of the Diesel is 97.26 per cent, and the fuel consumption is 6.8 gal. per hr.

Channels for Train Radio

F. C. C. proposes definite frequency assignments for use by the railroads for train communication

THE Federal Communications Commission has proposed allocations of radio channels for train communication purposes. These include (1) some joint use of channels below 3 megacycles; (2) for end-to-end communication 33 adjacent channels in the band 156 to 162 megacycles; (3) for yards and terminals, 3 bands in the television band, namely 44-50, 54-78 and 192-216 megacycles (these are to be used on an appropriate geographical sharing and non-interfering basis; (4) for experimental purposes the following: 1900-2300, 3900-4550, 5750-7050, 10500-13000, 16000-18000 and 26000-30000 megacycles. The Commission suggests that already assigned frequencies may prove practicable for the warning of wayside employees but that if they do not, three exclusive channels of appropriate width will be made available for this purpose.

In the Public Interest

Channels requested by the railroads include six below 3 megacycles, 88 between 100 and 200, 36 above 1,000, and the entire band between 2600 and 2700 megacycles. The Committee's findings are based on investigations made in the field by representatives of the Commission and on hearings held before representatives of the Commission in Washington, D. C. One of these hearings, devoted entirely to railroad requirements, was reported in the September 23, 1944, issue of *Railway Age*.

On January 16, 1945, the Commission issued a report bearing the title "In The Matter Of Allocation Of Frequencies To The Various Classes of Non-Governmental Services In The Radio Spectrum From 10 Kilocycles To 30,000,000 Kilocycles", (Docket No. 6651). Under the subject of New Radio Services, Section 17, this report lists the proposed allocations to railroads together with a fund of data and information outlining the evidence collected and explaining the reasons for the action of the Commission. This material may be summarized as follows:

The Commission is convinced that the carrier current system of operation is not, at present at least, a practicable solution for all communication needs of the railroad industry as a whole. It is felt by the Commission that the cost of installing paralleling wayside wires in locations where they are non-existent or not near track would incur an unwarranted cost; that the use of wayside wires would be impracticable in some metropolitan terminal areas, and that the system in some locations might at times be made inoperable by storms.

The Commission is convinced that a properly engineered railroad radio service will contribute to the safety of life and property both in preventing rail accidents and in reducing the seriousness of injury and damage after accidents by permitting the prompt summoning of aid to the scene of an accident.

The report states that the use of radio by the railroads should be of almost universal benefit to the public. To support this information attention is directed to the fact that the railroad industry is by far the major transportation service of the nation since freight service performed by Class I railroads for the year 1943 amounted to 730,407,500,000 ton-miles, representing 86.7 per cent of all land borne freight moved in the country, while in the same year the passenger service performed amounted to 87,974,200,000 passenger miles with 891,790,000 revenue passengers carried. "Thus," the report states, "it is clear that the establishment of a railroad radio service which will contribute to the safety and efficiency of these public utilities which play so important a role in our national life will result in a direct benefit to the public."

Experiments and Applications

The testimony in the railroad radio hearing showed that radio communications could be used to advantage by all railroads, in conjunction with the present type of signaling and dispatching employed. At the time of the hearings in this proceeding, 58 separate Class II experimental stations had been authorized for experimentation in the use of radio in connection with railroad operations. Although this experimentation has been confined to about 10 railroads, many more are prepared to use radio when a regular service is established for railroad purposes. Thus, on that basis, for example, 40 railroads representing 66.8 per cent of the total mileage have indicated that they will use radio for end-to-end train communication; 42 railroads representing 69.4 per cent of the total mileage have indicated that they will use radio in yard operations; and 39 railroads representing 64.3 per cent of the total mileage have indicated that they will use radio in terminal operations. Many other railroads also expressed interest in these services and it seems probable that the proposed railroad radio service will receive a very general use, once established.

The railroads requested six channels below 3 megacycles. Four of these, namely, one channel at 375 kilocycles and three from 400 to 500 kilocycles were for use from ship-to-shore and in coastal harbor services. No allocations were made for these since the railroads did not request exclusive use of these frequencies. The other two were for 2318 and 2342 kilocycles to be used for emergency purposes. The railroads have not requested the use of these frequencies on an exclusive basis and the report states that adequate provision can probably be made for such emergency requirements.

In the portion of the spectrum between 100 and 200 megacycles, 88 channels were requested for railroad use. The distribution of the 88 channels requested in this band was roughly as follows: one-third for end-to-end, train-to-train and fixed point-to-train communications; one-third for communications in yard areas where freight trains are broken up and reassembled; and one-third for communications in terminal areas where interchange of cars between various railroads, industrial switching and other operations are performed by a large number of roads.

End-to-End Communication

A total of 26 channels were requested for end-to-end communication and it is the Commission's feeling that the full development of end-to-end communication service within the railroad industry will probably require the 26 channels requested.

The channels requested for use in end-to-end train communication are also to be employed in fixed point to moving train operation for communication between train crews and fixed point personnel in the direction of main-line trains. In directing the movement of trains, long instructions are issued at times and, for that reason, it is necessary for the train crew to be able to "break" the director during the conversation in case of an emergency or any misunderstanding of the instructions being issued. To provide this break-in service, six channels were requested to take care of the cases where six individual railroads paralleled each other, but where this important break-in service would have to be provided on a non-interfering basis for each of these railroads. The six break-in channels, 120 kilocycles wide, were requested in the 159.12 to 159.84 megacycle band so that they would form a continuous band with the 26 end-to-end frequencies in the 156 to 159.12 megacycle band with which the break-in channels would be associated in use.

32 Channels Requested

Thus, for communication between the front and rear end of trains, between trains and railway employees on the ground, between passing trains and between fixed points and trains, a total of 32 channels, 120 kilocycles wide, were requested in the band 156 to 159.84 megacycles. As previously noted, these services require interference-free channels

because of the movement of trains over long stretches of country. Accordingly, it is proposed to allocate 32 adjacent channels in the band 156 to 162 megacycles. As in the case of other services in this portion of the spectrum, an average channel width of 60 kilocycles is assumed. It is further assumed that adjacent channels will not be used in the same area. Attention is also directed to the fact that the band 102 to 108 megacycles is not being assigned at this time. This makes it possible for the Commission to allocate this band at a future date to the services having the greatest need therefor, and in this connection the needs of railroad radio will be given careful consideration. Similarly, the television channel between 78 and 84 megacycles may also be available at some future date if television vacates this portion of the spectrum.

Yard and Terminal Service

For communication in yard operations 20 channels 100 kilocycles wide have been requested by the railroads in the band 133.85 to 135.85 megacycles. This request was based on the situation existing in the most congested area, the Chicago terminal district, containing 122 separate yards. Under the proposed allocation, the following frequencies in the following television bands are made available for assignment of the 20 railroad yard communications channels requested upon an appropriate geographical sharing and non-interfering basis: 44-50, 54-78 and 192-216 megacycles.

For communication in terminal operations 33 channels each 100 kilocycles wide have been requested by the railroads in the bands 116-116.4, 116.6-117, 133-133.8 and 137-138.7 megacycles. The estimate of 33 channels corresponds with the number of railroads operating in the Chicago terminal district. Sixteen of these railroads have asked for allocations and it is the judgment of Committee 7, Panel 13, Radio Technical Planning Board, that within a reasonably short time after the establishment of railroad radio service, all railroads operating in the Chicago district will find it desirable to utilize radio for terminal communications.

Although a wider communication range is required for terminal operations than for yard operations—as much as 35 miles in some terminals—the localized nature of terminal operations permits the same allocation treatment to be made of the channels requested for terminal operations as has been outlined for yard communications. Accordingly, it is proposed to allocate the 33 channels requested for use in terminal operations from among the frequencies in the television bands not used in the particular areas where the terminal communications are to take place. Under the proposed allocation, frequencies in the following television bands are made available for assignment for railroad terminal communications upon an appropriate geographical sharing and non-interfering basis: 44-50, 54-78 and 192-216 megacycles.

For warning employees who must work on or near tracks, three channels 120 kilocycles wide were requested in the band 159.84 to 160.20, 20 megacycles. Since these services require only short range operations the Commission believes the railroads can safely use for this purpose frequencies allocated for other railroad services without risk of interference. For that reason the Commission does not propose to allocate any separate frequencies for this wayside warning service. If it appears that such sharing is not feasible, three exclusive channels of appropriate width will be made available for this purpose.

In the portion of the spectrum above 1000 megacycles, 36 channels between 1000 and 1090 and in the band between 2600 and 2700 megacycles were requested for railroad use. Eighteen channels 2.5 megacycles wide have been requested in the band 1000 to 1045 megacycles to provide a radio relay service for wayside to train communications in the fixed point to moving train service where the desired range of communication may be as much as 300 miles. In the absence of such a relay system this range of communications would of course be unobtainable at the very high frequencies (156-162 mc) proposed to be allocated to this fixed point to moving train service.

Eighteen additional channels 2.5 megacycles wide have been requested in the band 1045 to 1090 megacycles for remotely controlling centralized traffic control systems. In addition to the radio relay and remote control channels requested above 1000 megacycles, the railroad industry has requested the assignment of the entire band 2600 to 2700 megacycles for the continuation of experiments in the microwave region. The Commission is not proposing permanent assignments to the railroads in this range since there seems little possibility of obtaining equipment on a commercial basis until after the war. Experiments conducted by the Chicago, Rock Island & Pacific, however, indicate important potentialities in these frequencies, and the Commission hopes that all roads will give every consideration to further experimentation at these frequencies.

Bands Available

Under the proposed allocation, therefore, the following frequency bands above 1000 megacycles will be available to the railroads and others, on an experimental basis, for the development of radio relay, remote control and other services for which the 2600 to 2700 megacycle band was requested on a permanent basis, namely, 1900-2300, 3900-4550, 5750-7050, 10500-13000, 16000-18000 and 26000-30000 megacycles.

It is the opinion of the Commission that the foregoing proposed allocation for railroad radio services is adequate for all purposes. Further, it is hoped, in the light of the evidence adduced at the railroad radio hearing regarding the improved safety and efficiency facts attendant upon the use of radio in railroad operations, that the railroad industry will make the fullest possible use of the frequencies proposed to be allocated as soon as materials are available. Finally, it should be noted that it is the Commission's obligation under Section 4 (k) of the Communications Act of 1934, as amended, annually to "report to the Congress whether or not any new wire or radio communication legislation is required better to insure safety of life and property." In conformity with that obligation, the Commission will continue to study the progress made by the railroads in the application of radio to their operations. Therefore, although the issuance of this proposed report in this proceeding, Docket No. 6651, looks also to a conclusion of the Commission's docket proceeding No. 6593, the Commission will, if necessary, hold further hearings on the subject of the application of radio to railroad operations. Simultaneously with the issuance of this proposed report in Docket proceeding No. 6651, an order is being issued in Docket proceeding No. 6593 providing that portions of this report dealing with the railroad radio service shall be deemed the Commission's proposed report in Docket 6593. Copies of that order and of this report are being served on all parties who appeared in Docket 6593.

F. E. C. Reorganization

(*Continued from page 186*)

of a majority of voting trust certificate holders, the voting trustees are authorized to sell all or any part of the new company's stock, thus leaving the way open for disposal of control to another carrier. In dismissing the Lynch petition, the commission pointed out: "In so ruling, we do not express an opinion as to whether a future control of the debtor's railroad by the Coast Line or some other railroad company may or may not be in the public interest and otherwise desirable."

"Benefit to Workers"—Thus the railroad unions' paper "Labor" characterizes the recent federal appropriation of $1,673 millions for highways, to be matched by the states 50-50, thus to bring about the spending of $3,346 millions of taxpayers' money to provide fixed plant improvements for the railways' competitors. The railroad unions' paper also writes in terms of highest praise for Senator Hayden, the highway enthusiast who is not making it any easier for railroads to hold on to traffic and thus provide jobs for railroad employees. The railroads have no rich uncle to build new and improved trackage for them, but have to depend upon private investors, whose zest for railway investments cannot be greatly stimulated by the billions of tax money going into competing facilities which do not have to earn taxes or a return for investors.

COMMUNICATIONS . . .

How to Set History Straight

CHICAGO

TO THE EDITOR:

Referring to the editorial in your December 30 issue, "Setting History Straight"—I also (speaking in by personal capacity and not officially) have an aversion to most spot news reporting about railroads due, of course, to lack of familiarity with railroads by reporters and editors.

A specific method of promoting accurate and more educational presentation of railroads in text books would be for the railroads to get busy and call the publishers' attention to each inaccuracy in their books. No change could be made in the particular book, but it should definitely serve to guide future publications. Inaccuracies could also be called to the attention of local school boards and superintendents for a change to more accurate texts. Any railroad man with children has a contact with the school system and an obligation exists on the part of the school system to serve him.

An even more direct method would be to have the matter handled by the A. A. R. with inaccuracies called to their attention by railroad men through their railroads. The A. A. R. could not possibly delve for inaccuracies, but they could coordinate material and provide the answers. The latter could even take the form of the publication of a high grade study correcting commonly stated inaccuracies.

Our diplomatic railroad historian on the A. A. R. if warranted, might be able to establish contacts and do a great deal of good.

Every grade school child studies about airplanes both in and out of school. Why don't the railroads develop an authoritative text book? This is only one phase wherein the public relations of the railroads could be greatly improved.

D. K. VAN JUGEN
Cost Engineer, C. & N. W.

Education for Preserving Freedom

HATTIESBURG, MISS.

TO THE EDITOR:

I am thoroughly in accord with the statements expressed in the splendid editorial entitled "The Railroads' Interest in Private Enterprise," which appeared in the *Railway Age* of December 23. I was particularly impressed with the self-evident truths which appeared in the last paragraph of this splendid editorial. The editorial stated:

"Many railway leaders and spokesmen are plainly indisposed to participate in these campaigns of education against policies threatening private enterprise as a whole, probably because of fear of antagonizing an administration which has so much power over the railways."

We are one of the few railroads that I know of which is asserting itself for re-establishment of the entire system of private enterprise. We believe that the preservation of private free enterprise and the preservation of constitutional government are inseparable. We believe that if we lose one, we are bound to lose the other. Therefore, if railway leaders and spokesmen will exert themselves in a courageous fight to preserve private free enterprise, they will not only be contributing toward their own and the nation's future progress and prosperity, but they will be making a fight for the very freedom for which our armed forces are now fighting and giving their lives.

I am attaching a copy of "Bill Smith" letter No. 10, which our company is distributing not only to our several hundred employees, but to industrial and labor leaders throughout the United States with the offer to furnish them with additional extra copies gratis.

The present world-wide trend of collectivism, which has made such a headway in our own country, is deep-rooted. Economic and political ignorance on the part of our own people, together with the desire to drift with the masses and follow the line of least resistance, have resulted in a most serious threat to our freedom.

L. E. FAULKNER
Vice-Pres. & Gen. Mgr., Mississippi Central

[Mr. Faulkner enclosed one of his "Bill Smith" circular letters, which contains educational information on the subject of current economic and political problems, and the application of historic American principles to their solution. If there is any *Railway Age* reader who has not seen the "Bill Smith" letters, we suggest that he ask Mr. Faulkner for a copy.—EDITOR.]

Who Should Own the Sleeping Car Business?

BOSTON, MASS.

TO THE EDITOR:

In recent issues of *Railway Age* I have read news and comments regarding the problem created for the railroads by the insistence of the Department of Justice that the Pullman group of companies be divorced.

May I suggest two possible solutions? Obtain a modification of the court's decree which would permit Pullman, Inc., to liquidate and distribute the stocks of the Pullman Company and Pullman Standard Car Corporation, to its own shareholders. This would separate the transportation business from the manufacturing business. However, if a modification of the decree is unobtainable, have a popular par value, say $25, established for the shares of capital stock of the Pullman Company, then have Pullman, Inc., sell this stock to a nation-wide group of investment bankers, for distribution to the investing public.

As a securities salesman of twenty years' experience, I feel sure I would encounter no difficulty in placing this stock with my clients. Public utility holding companies have followed this procedure with marked success in the sale of operating company stocks.

In this way, the railroads could use the funds which might have to be invested, either collectively or individually, in the sleeping car business, to much better advantage, such as general additions to road and equipment and to the retirement of bonds.

Furthermore, I believe that both the railroads and the public will be better served by leaving this highly specialized branch of transportation business to the organization that has conducted it so well and efficiently for almost eighty years, the Pullman Company.

GEOFFREY SPURR

Business Cars for Superintendents?

CHICAGO.

TO THE EDITOR:

I was interested in the article entitled, "Statistics for Operating Officers," which appeared in the September 30 issue of the *Railway Age*. I think that every superintendent agrees that records and statistics have definite limitations as well as advantages. The most important limitation is that statistics can never serve as a satisfactory substitute for on-the-job observation.

The chief responsibility of division officers is to spend a large portion of their time in outside supervision so that they may control division operations by direct contact on the ground. Unfortunately, the average division officer is loaded up with so much office detail, meetings, etc., that the actual time that he can devote to on-the-ground supervision is limited.

To a large measure, I believe this can be corrected by furnishing business cars to division superintendents. There are, of course, many division superintendents throughout the country who are already making good use of the office cars furnished them. On the other hand, there are many superintendents who are not provided with cars even though they are in charge of busy divisions which may consist of 500 to 600 miles of line, including districts on which no passenger train service is available. On such divisions the only contact the superintendent has is in riding over the main lines on some fast passenger train. He thereby loses the personal contact with local freight train crews, shippers and agents at small stations, as well as other classes of employees, which he might have if he had some kind of office car that could be attached to local freight trains. At the same time, such a car would enable the superintendent to spend much more time on the division, by providing a place where he could handle his correspondence properly, the same as in his office at division headquarters.

DIVISION SUPERINTENDENT

"HOUSE ORGANS."—Noting a "remarkable resurgence of interest in house organs as a medium for maintaining public and employee relations on a high level," the Printers' Ink Publishing Company, New York, has compiled a directory of more than 5,100 "house organs" published in the United States and Canada.

France as the Second M. R. S. Saw It

A report by an active participant on how Army railroaders suddenly found themselves called on to operate 8000 miles of line and did it—with no lights, no communications, few yards

"Any resemblance between military railroading on the continent and railroading back home is purely coincidental, accidental and illusory."

THIS story begins on D-Day-Plus 11 and ends late in '44 on the German border. Here you will find full instructions on how to run a railroad without communications, without lights, with very little water and fuel but an abundance of power, with lots and lots of main line—and, practically speaking, no yard facilities (a deficiency which, it is rumored, was provided by the U. S. Army Air Forces).

On D-Plus 11, a reconnaissance party of the Headquarters Second Military Railway Service landed under fire on one of the Normandy beaches. Except for a heavy stock of small arms ammunition, an extra box of hand grenades, and a peculiar looking jeep equipped with demountable flanged railroad wheels, the party looked exactly like the combat troops arriving at the same beach. They were the forerunners of over 12,000 United States railroad men who were to arrive within 12 weeks and take over the military railroad transportation for the American armies moving toward Germany.

In Normandy

The reconnaissance party had the specific assignment of analyzing the possibilities of the railroad facilities on the small beachhead, locating available power, determining points of extensive damage, arranging with the Corps of Engineers for rehabilitation, planning initial operating requirements, relaying information back to headquarters in England, and continuing their reconnaissance behind the advancing troops.

The group attached themselves to a field camp of the Advance Section, Communication Zone, near Isigny. A nearby airfield was being bombed every night. Every day for a week they reconnoitered various sections of the line, riding on the rails in their special jeep, over a railroad they hoped had been cleared of mines, often finding themselves between the two opposing armies, with artillery shells screaming overhead. On June 24, they started for Cherbourg. The fall of Cherbourg was expected. At Valognes they were told to wait—Cherbourg was not yet ours. Local reconnaissance was made to the coast ports of St. Vaast and Barfleur. Several crossings of the Vire river bridge at Carentan were made under fire. On the 28th, a shell bursting near the jeep injured one of the officers. These experiences were typical and were to be repeated many times by different groups as the railroad men advanced across France on the heels of the Allied columns.

On D-Plus 23, Brigadier General Clarence L. Burpee flew into Normandy. On D-Plus 26, D-Plus 29, and on D-Plus 31, the reconnaissance party was reinforced by successive detachments of the 2nd M. R. S. Headquarters were established in Cherbourg in an apartment house formerly used by the Luftwaffe. First Army Headquarters were a block away. Signs appeared on all the principal streets indicating direction to the 2nd M. R. S. They were the first in Cherbourg. On D-Plus 26 the Cherbourg yards witnessed the H. Q., 2nd M. R. S., without subsidiary grand divisions or railway operating battalions, taking over the operation of existing trackage in the Cherbourg area, utilizing volunteer French engine crews to move equipment and cars, and volunteer French railroad workers to repair the roundhouse, shop facilities and engines. Combat forces were still in town; so were the snipers. Everyone wore his steel helmet and arms. Nobody wandered around alone at night.

Bomb Damage in Vicinity of St. Lo

Four-Track Railroad Bridge at Pontoise Over Oise River

This article was prepared especially for *Railway Age* by direction of Brigadier General C. L. Burpee, commanding the 2nd M. R. S. It was written by Captain Edmund J. Phillips, Jr., of General Burpee's staff, formerly an associate editor of *Railway Age*.

Rehabilitation of the available lines was immediately inaugurated by the troops of the Engineer Corps under technical supervision of the 2nd M. R. S. The first consideration was to get the line from Cherbourg to Carentan to Lison open to service. Neatly bottle-necking this idea, however, was a main line tunnel which had been bombed and blocked just outside Cherbourg. Instead of attempting to clear the tunnel, the engineers decided to convert it into a cut. A carload of dynamite was backed in, exploded, and the tunnel became a perfectly clear gash in the side of the hill. About this time (July 3) an advance detachment of the first Railway Operating Battalion (729th) to appear in Normandy arrived in Cherbourg from the beaches. They were followed almost immediately by the remainder of their battalion, by another Operating Battalion (728th) and a Grand Division (707th). Things were looking up. The first scheduled passenger train was operated from Cherbourg to Carentan on July 12, exactly 10 days after the arrival of the first detachment of the 2nd M. R. S. in Cherbourg, and 16 days after the official capture of Cherbourg. Freight started moving on July 13, the first train being operated from Lison with cement for the Cherbourg port reconstruction. The first troop trains were handled on July 22. The Port of Cherbourg was officially opened.

Daily Visit from Jerry

This all may sound simple, but the initial operation was accomplished entirely with captured power and rolling stock, operated over hastily reconstructed track by young G. I. engine crews who in many cases had less than a year behind them in the cab of an American locomotive. And much of the operation was done at night. Every day Jerry flew over to see how we were making out. So, if you can imagine yourself climbing aboard a strange looking French engine in the middle of the night, pulling back the throttle and moving out over some very bad track that you know disappears behind the next hill to an indefinite place they call "Carentan", you will have a picture of the courage and initiative displayed by the G. I. "Cheminots" (the French word meaning railroaders) in France. They not only pulled out for Carentan, but from that time on, all over France, they roared through the dead black night without headlights, knowing no tail-lights would be displayed ahead, only knowing that the route ahead, somehow, someway, led to comrades just this side of the German line. As they rode, they munched their K-rations or watched the anti-aircraft searchlights and guns make paths in the sky.

Bridge Blown Up Over Oise River, North of Paris

The Break-Through

The harbor at Cherbourg was finally cleared of mines and sunken ships, landing facilities were provided, and United States equipment—Diesels, 2-8-0's, tank cars, flat cars, box cars, and "crummies" started rolling in. And so did the tons and tons of supplies necessary to back the next American thrust. The latter came about July 25, with a breakthrough rumored in the vicinity of St. Lo. At this time everyone saw Paris on the horizon. Certainly, it was thought, the Germans would make a stand on the Seine. And attention was distracted by the action on the nearby Brittany Peninsula. Reconnaissance parties explored around La Haye du Puits, Avranches and Rennes. Two French liaison officers were killed while on reconnaissance near Brest.

Railway operating battalions by the boatload arrived on the beaches. Hastily met by a liaison officer from 2nd M. R. S. they were loaded in trucks, taken over strange roads to some point arbitrarily picked beforehand on the map as headquarters, dropped in the middle of a battle-scarred town (fortunate for them if any of the town were standing) and told: "This is your Headquarters; you operate from so-and-so West of here to so-and-so East of here. You're on your own; better find billets and feed your men first. I have to go back for the 7??th; they're on the beach now, to go to Coutances. Good luck—so long."

Then the whole time-table of war was

Debris Covering Two Main Tracks Caused by Demolishing Tunnel 1,000 Ft. East of Cherbourg Roundhouse

Bridge Out Over L'Ourcq Canal on Outer Circle (Paris Area) North of Bondy

upset—the Germans, they said, were retreating beyond the Seine—the American troops had passed Le Mans, Chartres, Troyes. They were headed for the German border, and up into Belgium—like a long end-run in a football game. On September 4, a reconnaissance party of officers from 2nd M. R. S. piloted two trains through the "Inner Circle" of Paris, and started them after the eastern moving armies. Train routes had to be picked quickly from the routes discovered open. Snap judgments had to be made. Operating battalion and grand division territories were extended, re-extended, reassigned. Train crews moved out far beyond control of their headquarters, beyond reach of all communications.

As they reached the end of one so-called division point, they would be ordered on to the next. One crew left Lison on the Cherbourg Peninsula, and after continuous duty finally left their engine 70 hours later in Brussels, Belgium. In the push to Le Mans and beyond, mountain grades 2 per cent on the Normandy Peninsula required double heading. Fuel was carried with the trains; coal for the 2-8-0's and oil for the Diesels. Because of the lack of yard facilities (the yards in almost all instances had been thoroughly wrecked by the Air Force), any trouble which developed lined up trains for miles on the main line, where they ate up fuel, and particularly water. Work trains carried water pumps. At a station in Normandy a fireman who had been out for 60 hours saw a hospital train pull in from the front; he made the remark that he was going out again immediately on a run that would not get him back for three days, but if those boys could take it, so could he, and gladly.

The advancing American columns received a lot of their supplies directly from the ever-lengthening motor transport routes, later to be known as the "Elastic Band"—the Red Ball Route. But close behind them, very close, came the not so elastic but "Steel" band that was to handle the tonnage of the fighting armies. The routing and billing problem was terrific. Trains became lost operating over uncharted routes. Crews became lost—staring hopelessly at some diverting switch and trying to puzzle out whether straight ahead or off to the left led to their destination. For four days one route would be used, for the next four days a route a little shorter; then a bridge would be fixed and an entirely different route utilized.

Around Paris and Beyond

One could never be sure of making the same trip twice over the same route—in fact one could never be sure of making the same trip twice! In approximately eight weeks the units under the control of the 2nd M. R. S. in France were forced to operate and build up an organization to control a system that most "civilian" railroads at home had taken 75 years to develop. The unexpectedly rapid advance of our troops across France had upset all the prearranged plans. Our armored columns not only passed out of the preconceived picture—they disappeared beyond the frame!

All railroad lines in France center on Paris. The Germans left on August 27. On September 2 at 5 a. m. officers of the 2nd M. R. S., who had arrived with Brigadier General Burpee and Major General Frank S. Ross, Chief of Transportation, on August 29, received the first train from Chartres—40 cars of medical supplies. The first through trains for points east of Paris were operated on September 4. They consisted of ammunition and rations. The difficulties in getting through Paris were many. Paris is served by 14 incoming rail routes, like the spokes of a wheel. They are connected by an "Inner Circle" and an "Outer Circle," similar to the inner and outer belt tracks in Chicago. In the early stages, use of the Outer Circle was denied because of the destruction of bridges. All the first trains were routed over the "Inner Circle". This was accomplished by placing French personnel as well as G. I. crews on the trains at Chartres, with an officer on each train. Enlisted personnel of H. Q., 2nd M. R. S., were spotted at the important junction switches on the route around Paris and they acted as pilots, giving instructions for the movement of trains through the maze of the Paris network.

The Major Problems

Trains for points east of Paris were routed at first over two principal routes. Grand divisions and operating battalions were moved east as quickly as possible, along both of these routes. Reconnaissance parties extended their operations day by day, finally reaching Nancy, Luxembourg and Belgium. The lines were gradually opened up to points immediately behind the various armies. Then the problem shifted to realignment for a swing in traffic of 90 degrees, the Channel ports being opened up one by one. With the line stabilized more or less at the German border for about 30 days, the first phase of adjustment to the operation of almost 8000 miles of track was over.

Innumerable individual stories could be related, but the principal troubles all hinged on the amazing speed of our columns across France, and the necessity of providing a roadway, personnel, equipment, and organization swiftly to move the required supplies. One of the most formidable problems was the lack of communication facilities. It was basic. Telephone lines were cut, in many instances at every pole, the wires draped to the ground. Switchboards were ripped out, or chopped up with axes by the retreating Germans. Because the railroads of France are a closely knit network of innumerable routes, it took time to reconnoiter new lines, get reports in, choose a through route, initiate reconstruction. Jeeps were used in courier service to handle reports, issue instructions. Even when lines were opened, it

Bombed Tracks at St. Lo

was frequently necessary, in the early stages, to dispatch train orders by courier jeeps, also difficult to get.

The original wire network "plan" called for a dispatchers' circuit, a message circuit, a through movement control talking circuit between H. Q., 2nd M. R. S. and the various grand divisions, and a local movement control circuit between grand divisions and operating battalion. Also, teletype was to be provided between principal points. But almost everyone was caught off balance with the sudden liberation of so much territory. The Signal Corps, charged with the rehabilitation of the railroad circuits, and provision of the above mentioned circuits, found itself swamped attempting to keep up to the requirements of the combat troops and rear echelon headquarters constantly on the move. As a result only the dispatchers' and message circuits were rehabilitated immediately. Railroad long lines construction was postponed. Extensive courier service with jeeps on fast schedule was substituted by the office of Chief of Transportation.

General Ross foresaw the situation which was going to develop and arranged with the Signal Corps for the release of ten high powered mobile radio units. Operating personnel were quickly trained at M. R. S. headquarters, and the units dispatched to key points between Cherbourg, Nancy, and Belgium. They were utilized for long distance control messages, both by the grand divisions and M. R. S. Headquarters. But for a while the situation was described by one high officer in these words: "Never has mythical knowledge been possessed by so many on so much about so little."

Another interesting problem arose in the utilization of the French railroad personnel. In many cases they were immediately on the job, waiting to be told what to do. Others had fled to the country and did not return for many days. But frequently whole shop crews would be found under shelter next to the bombed-out roundhouse, or a towerman would wait around a completely wrecked control tower, wanting to help but not knowing exactly how. As a matter of policy, and to gain arms and legs and operating knowledge whenever possible, all former employees of the railroad system were utilized in their normal railroad occupations. At Rennes over a thousand were put to work the first day a G. I. railroader arrived,

clearing wreckage and rehabilitating tracks. French engine and train crews were used as complete train complements and interspersed with G. I. personnel.

Interpreters were hired in quantities by grand divisions and operating battalions. If interpreters were not available, the sign language, diagrams, and a common knowledge of railroading sufficed. The psychological reaction of the French to the Allied occupation was curious. While many of them reacted instantly to cooperation, others seemed to be lethargic. It was discovered that this was due primarily to four years' practice of being "obstructionist" to the Germans. They could not readjust their habits quickly. Where few French were available, U. S. A. troops assumed control of the lines and moved all traffic. After conditions were stabilized, the French assumed responsibility for train movements, aided by superimposed Military Railway Service personnel. On lines handling minor quantities of military traffic, and on subsidiary lines, the operation was turned over completely to the French as soon as possible.

The night operation without lights, strange right-of-way, and strange equipment led to several wrecks, mostly rear-end collisions. Time after time, Rule 99 had to be stressed.

The maintenance of way companies struggled to rehabilitate and maintain track without an abundance of power equipment, and always in danger of land mines placed under the ties or shoulders. In one short stretch around Lessay station it was estimated that the Germans had left 400 in the station track area. Yards, all yards, were usually in such a shambles from aerial bombardment that they looked hopeless. Standard procedure here was to pull out anything that could still roll, with the nearest available engine, pile up the wrecked equipment with bulldozers, and reconstruct as much track as possible from the parts of old track remaining, adding as much new rail as was available.

For days on end, railroad troops lived on K-rations (condensed package food consisting of biscuits, lemon extract powder, canned meat composite, candy and cigarettes) or C-rations consisting of a limited number of canned vegetables, wienies and corned beef. A lot of the men who were on K-rations for prolonged periods broke out in hives. The billeting situation varied from the sublime to the ridiculous. In some instances units were fortunate and moved as a unit into a large hospital or school equipped with all facilities including beds. In other cases entire units slept on station floors with nothing under them but blankets. At way points most of the station buildings had been well strafed. One could sometimes look out the second story from a gaping shell hole as easily as from a shattered window.

Meeting of American and British Railroad Jeeps at Lison

Wrecked Bridge on St. Lazare-Argenteuil Line Over the River Seine

On the Equipment Side

Fortunately it was summer. Whenever possible units were housed in billets previously requisitioned by the Germans for troops or "Todt" workers. The latter type was not so favored because they were usually infested with vermin. The Todt workers had not been too clean. Railroaders found they could keep the bugs away by sleeping in their "impregnated" (special anti-gas treated) clothing. As rapidly as possible the organizations in the badly devastated areas acquired railroad cars, passenger cars and work train cars as well as box cars, both for offices and living quarters. But in general, railroad troops "queued up" for meals, "shots," latrines, yards, stations, water, coal, and beds.

On the equipment side of the ledger, the American forces were very fortunate. While many locomotives had been bombed and shot up, many were found in perfect running condition; many others could be and were quickly placed in running order by the shop battalions. The power problem was principally a problem of distribution and maintenance. Loaded trains usually required double heading. Trains of empties on the return trip could be handled with one engine. Since everyone wanted plenty of power around, the problem, with inadequate communications, was always to force the return of power from one side of France to the other. Cars of all types also were, comparatively speaking, readily available. Here the proper balance and distribution of necessary types to the loading points constituted the principal problem. Basically, the satisfactory equipment situation was due to the capture of French and German equipment and an excellent flow of equipment from Britain. U. S. A. railroad equipment of all types was unloaded at Cherbourg daily from barges, L. S. T.'s, and "Sea Trains" beginning July 29.

This has been a brief story, but now you know how to run a railroad without communications, without lights, with very little fuel and water, but an abundance of power, with lots and lots of main line—and no yard facilities. You rely on the intelligence, courage, and endurance of each individual man in his particular job. If he is made of the same stuff as the average G. I. Cheminot in France, you have no worries. And the trains will go through.

Railroads-in-War News

O.D.T. Order Bans Light-Loaded Trains

Must show 35% average passenger load to run, under Byrnes instruetions

The Office of Defense Transportation on January 11 issued General Order ODT 47, requiring railroads "immediately to discontinue all passenger train schedules which are operated for the purpose of providing seasonal service to any resort, recreational or vacation area," and, effective March 1, prohibiting railroads, except with O. D. T. permission, from operating a passenger train schedule on which the occupancy of seats and space did not average 35 per cent during the month of November, 1944.

In making this announcement, O. D. T. Director Johnson explained that the order was put out in response to a request from James F. Byrnes, director of war mobilization and reconversion, which was a part of his more general action intended to conserve coal consumption. The O. D. T. said that the 35 per cent occupancy formula would eliminate "many" branch line schedules and "should result in a sizable saving of coal." It was explained, however, that the order would not apply to mixed train operation, nor to "suburban and interurban service."

Colonel Johnson said that, as a result of the new order, "fewer people will be able to travel now." He went on to say, however, that no excursion trains and very few special passenger trains have been operated by the railroads since General Order O. D. T. 24 went into effect September 30, 1942, and that the result of that order had been to keep passenger service at the general level of that date.

Check on Conventions—The O. D. T. director on January 11 made public the form of application required of organizations planning conventions or other group meetings to be attended after February 1 by more than 50 persons. The War Committee on Conventions, of which Colonel Johnson is chairman, will use as a "yardstick" to measure the "essentiality" of any meeting this question, he said: "How will the winning of the two wars we are now fighting be impeded if the meeting in question were held to an attendance of 50 persons or canceled outright?"

The form which must be submitted for the committee's consideration by organizations considering larger meetings includes this question: "In what way and to what extent will the war effort suffer if this meeting were not held?" Other information required is whether a convention, conference, trade show, or government meeting is planned; date and location and hotel space required; attendance expected; previous frequency of meetings; location and attendance of last previous meeting; average attendance at previous wartime and pre-war meetings; origin points of persons attending; steps taken to curtail attendance; reasons why a "convention by mail" or in print would not attain the objectives of the meeting; and why 50 or less persons cannot be delegated authority to transact the necessary business.

Where to Get Permits—It was pointed out that the general exemption of meetings of fewer than 50 persons does not mean that such meetings are approved by the committee, since they, too, should be canceled if they constitute a drain on transportation or housing facilities. Issuance of a permit by the committee for a gathering of more than 50 persons is no guarantee that transportation or hotel facilities will be available, it was added. Permits will be required for gatherings of more than 50 persons representing industrial, business, labor, fraternal, professional, religious, civic, social and governmental organizations, the statement explained. Applications will be received by Richard H. Clare, secretary of the committee, at Room 7321 Interstate Commerce Commission Building, Washington 25, D. C.

"Scores" of voluntary cancellations of conventions have been announced since Justice Byrnes issued his "request" that meetings of more than 50 persons not be held, Colonel Johnson stated January 13. Among many others, he mentioned the American Bankers Association Trust Division, American Medical Association, United States Conference of Mayors, National Automobile Dealers Association, National Association of Credit Men, Radio Manufacturers Association, National Retail Jewelers Association, Allied Liquor Industries, and National Association of Insurance Agents.

What Does Order Mean?—Railways in the Eastern region appear about as one in their inability to interpret the new O. D. T. directive. Some admitted they had received the order and that the passenger traffic department had looked it over, with the result that it did not know any more than before. More specifically, a spokesman for the Jersey Central raised a question on the 35 per cent occupancy clause. Hypothetically, he thought that a train might well leave New York for Philadelphia with the required 35 per cent occupancy, get as far as Plainfield, say, and lose a lot of its customers, and perhaps not pick up many others until nearly into Philadelphia. He wondered just what constituted 35 per cent occupancy.

Move War Freight First, Johnson Asks

Orders roads in storm areas to discontinue passenger service if necessary

Railroads, suffering from severe weather conditions, have been instructed to discontinue passenger service immediately wherever required to assure the movement of war freight, the Office of Defense Transportation announced on January 16. The announcement said that railroads "particularly affected" are those "traversing New York State, Ohio, upper Pennsylvania and Indiana, although the critical congestion caused by some of the worst weather in years may affect railroads at considerable distances from the storm area."

Col. J. Monroe Johnson, director of O. D. T., in a letter to J. J. Pelley, president of the Association of American Railroads, asserted that there are now thousands of freight cars of all kinds that cannot be moved. "Under these conditions," he said, "the railroads should: (1) Prohibit, for the next 96 hours, all commercial loading, except war materials and fuel, which is to be moved through the congested area; (2) intensify the steps already taken to move solid blocks of empty cars out of the area; (3) discontinue passenger service and use the full energies and equipment of the railroads to haul desperately needed freight wherever such action is necessary to keep essential war traffic rolling."

The O. D. T. expressed its hope that the "extremely critical situation" would be cleared up shortly, "but it would be well for the public—both shippers and travelers to realize that with the nation's transportation system so severely overburdened emergency conditions, such as we are now experiencing, may very well be recurrent."

It is understood that the Johnson letter was referred by Mr. Pelley to the chairman of the Eastern Railroad Presidents Conference—Gustav Metzman, president of the New York Central. Meanwhile the A. A. R. Car Service Division issued Car Service Division Embargo 31, embargoing for three days coal moving to Cleveland, Ohio, Erie, Pa., Buffalo, N. Y., Lackawanna, Harriet, North Tonawanda, Lockport, and Niagara Falls. The embargo became effective at 12:01 a. m. on January 18 and was to expire at 11:59 p. m. on the 20th. It did not ban shipments of railroad fuel coal or shipments to retail dealers.

I. C. C. Service Orders

Interstate Commerce Commission Service Order No. 263, establishing superdemurrage charges and other restrictions

designed to eliminate delays in tank car movements, has been superseded by Revised Service Order No. 263, effective January 22, which makes substantial modifications in the provisions of the first order, which would have been effective January 15. The revised order expires April 1, unless otherwise directed, thus running a month further than the first order.

The principal requirements of the first order were set forth in *Railway Age* of January 6, page 127. The revised order, as modified by Amendment No. 1, dated January 17, departs from those requirements in the very important respect that it applies only to loaded tank cars held for unloading, reconsigning, diversion or re-shipment, and that the demurrage charges, after the expiration of free time, are $11 per day for each of the first five days of detention and $22 per day thereafter. Under the revised order, tariff provisions with respect to demurrage rules and charges generally remain in effect, except as to the increased charges on loaded cars, and subject to the order's provision that only 24 hrs. free time shall be allowed where 48 hrs. free time is allowed under tariffs, and not more than 24 hrs. additional for bad weather, bunching, etc. Tariff free time in excess of 96 hrs. on cars placed for transfer of liquid bulk commodities direct to tanker or barge is restricted by the order to 96 hrs., and it also provides that Sundays and legal holidays shall not be excluded in computing any free time or chargeable detention.

The revised order makes tank cars with Equipment Register mechanical designations prefixed with TA or TAI subject to rules applying to cars with TM and TMI designations.

One provision of the revised order that remains applicable to "any" tank car is that prohibiting including such cars in average agreements. Tariff provisions concerning substitution of storage rules and charges in lieu of demurrage on cars held at or short of ports when lading is to be transferred to vessels are suspended, and demurrage rules and charges as provided under the revised order are made applicable.

The revised order makes no reference to cars "constructively placed." Its preamble indicates that tank cars are being "delayed unduly" in unloading, without reference to other situations mentioned in the original order. The clause in the first order which made its provisions generally applicable to any car held for any purpose on any track likewise is not incorporated in the revised order.

By Service Order No. 273, effective from January 25 to August 31, inclusive, unless otherwise directed, the commission, on the recommendation of the joint grain and grain products transportation conservation committee, has directed that free time allowed on "set back" cars of grain or grain products moving intrastate in Minnesota shall be reduced to the basis authorized in other states on similar traffic.

Army Finds Service Order 68 Costly; Asks Exemption

Fortified this time with the results of a survey covering what it considers its costly experience, the War Department has asked the Interstate Commerce Commission to set aside specified provisions of Service Order 68 which suspends classification rules and tariffs which had permitted application of minimum weights lower than those provided for cars used, and prohibits the furnishing of two small cars for a large car ordered. The order was originally issued January 30, 1942, and a previous War Department petition for exemption of its shipments was denied by the commission March 6, 1944.

The survey upon which the present petition relies covers 18 weeks of 1944, showing charges applicable to cars ordered by the War Department as compared with the charges resulting from the cars furnished. For the 18 weeks the total of the latter is higher by some $12,800 than the aggregate of charges which would have been applicable to the cars ordered. The petition says that the figures demonstrate that "unreasonable transportation charges have been assessed against the War Department."

Stars and Stripes Tells Story of T. C. in European Theater

"Destination Berlin" is the title given the second of a series of pamphlets to be issued by Stars and Stripes, army publication, on the ground, air and service forces in the European Theater of Operation. An informal presentation of the U. S. Army Transportation Corps in E. T. O., this tiny 32-page pamphlet, well illustrated with pencil sketches and photographs, has been "passed by censor for mailing home," providing space in the front of the booklet for the overseas railroader to enter his name, enlistment date, awards, citations and similar intelligence. Maj. Gen. Frank S. Ross, Chief of Transportation, E. T. O. co-operated in its preparation and basic material was supplied by personnel on his staff.

General Ross, in his indorsement "with pride and emotion" of the account herein told made plain that it was the story of "aching muscles, long and arduous hours of unsung labor . . . the weary truck driver . . . the train and engine crews . . . the humble section hand . . . the back shop . . . the harbor repair crews"—in short, the story of all men in T. C.

Railroads "Critical" in Manpower Classification

The War Manpower Commission on January 16 made public a list of "essential" and "critical" activities to be used by Selective Service as a guide in the induction of men in the 26 through 29 age group, in accordance with a directive issued the day before by Director Byrnes of the Office of War Mobilization and Reconversion.

For transportation services the "critical" activities are: Air transportation, line-haul railroads; switching and terminal; railway and air express; rail inspection; maintenance and repair of railroad equipment, right-of-way, and rolling stock; over-the-road bus; off-shore and intercoastal water transportation, including shore services such as stevedoring and harbor operations; pipe line transportation; transportation services on the inland waterways, Great Lakes, harbors, bays, sounds, and waters connecting with the seas, including shore services such as stevedoring; over-the-road trucking; warehousing of essential (perishable and non-perishable) commodities. The "necessary" activities of the transportation services are: Freight forwarding; maintenance and repair of railroad buildings; local transit, rapid transit, and interurban electric railway; operation of highway bridges.

The "critical" activities in connection with the production of transportation equipment include the production of locomotives and parts; railroad and street cars and equipment; and trucks and buses.

The list was drafted after consultation among representatives of the Army, Navy, Selective Service, War Production Board, and W. M. C., the announcement said.

Headquarters, 2nd M. R. S. Gets Service Plaque

The highest honor to be given service troops by the War Department—the Meritorious Unit Service Plaque—has been awarded Headquarters and Headquarters Company of the 2nd Military Railway Service, a release from the European Theater of Operations announces. Maj. Gen. Clarence L. Burpee is commanding general of the 2nd M. R. S.

Following a landing on the Continent in July of last year, the personnel of this unit made reconnaissance of the railway lines in liberated territory, and supervised operating and repair battalions in rehabilitating railway lines, shops and rolling stock.

Transportation Corps Aids in Supplying Paris

Food, fuel and building materials are now reaching the people of Paris daily by means of the inland waterways' system, set up by the Transportation Corps; by the railroads, once more in operation through the efforts of the Military Railway Service; and by means of trucks, which have been turned over to the French by the T. C. And, according to advice from Headquarters, European Theatre of Operations, the Transportation Corps has "shortened the time necessary" for the rehabilitation of the city.

The inland waterways system, which was set up by Col. Norman A. Ryan, formerly general manager of the Milwaukee at Seattle, Wash., has lifted a large load off the railways where U. S. army supplies get first priority, though much foodstuff still is hauled by rail.

The motor transport division, headed by Col. Ross Warren, of Kansas City, Mo., is responsible for the issuance of 500 trucks to the French for hauling coal and supplies, tons of which now reach the French capital daily.

Nazis Net Small Rail Gains in Belgian Break-Through

Although General Von Runstedt's forces over-ran about 225 route miles of track within the "bulge" in their recent breakthrough into Belgium, Transportation Corps Headquarters in a January 2 release (just received) noted that "their military value was almost negligible." About 160 miles of these captured lines, it is explained, were double-track, and the remainder single-track. Some had never been used by the

American Army, others were delegated to civilian use, while still others served as lateral supply lines for short hauls.

It was stated that supplies for the armies in the central and southern front have been coming in from Marseilles, Le Havre, Rouen and Cherbourg, and those for the northern armies have moved via Antwerp.

Roads Handled Record Volume of Export Freight in '44

Railroads handled "without serious congestion" in 1944 the "greatest volume of export freight traffic on record," according to Association of American Railroads. "Export traffic is moving freely through the various ports all of which are in a completely 'liquid' condition," the A. A. R. added.

Cars of export freight, excluding coal and grain, unloaded at all ports in this country in 1944 totaled 1,866,324, compared with 1,401,186 in 1943, or an increase of 33 per cent, and an increase of 228 per cent above 1940 in which year 568,303 cars were handled. Coastwise freight unloaded at all ports in the past year totaled 7,661 cars compared with 7,333 cars in 1943, or an increase of 5 per cent. Export grain unloaded at all ports in 1944 totaled 38,849 cars compared with 53,204 cars in 1943, or a decrease of 27 per cent.

Cars of freight for export and coastwise movement unloaded at the ports daily averaged 5,226 in 1944, compared with 4,005 in 1943, 2,616 in 1942, 2,412 in 1941, and 2,235 in 1940. The highest daily average for any month on record was attained in September, 1944, when it reached 5,659 cars.

The number of cars unloaded at North Atlantic ports in 1944 was more than 130 per cent greater than during 1918, in the first World War. Due to the fact that the average tonnage per car currently is considerably more than it was in 1918, the increase in the volume of tonnage was even greater than indicated by the increase in the number of carloads.

There were 164,799 cars of export freight, excluding coal and grain, handled through United States ports in December, 1944 compared with 128,358 cars in December, 1943, or an increase of 28 per cent. Export grain unloaded at the ports in December totaled 3,136, compared with 5,770 in the same month last year, or a decrease of 46 per cent. Railroads handled 389 cars of coastal freight in December, 1944, compared with 936 in the same month in 1943, or a decrease of 58 per cent.

Cherbourg-Paris Passenger Service Is Resumed

On January 8, the first passenger train service between Cherbourg and Paris since before D-Day was inaugurated, according to a release from Headquarters, European Theater of Operation. Two trains now make daily the 230-mile run in 11 hr. 50 min., one leaving from Paris, the other Cherbourg. Special "boat" trains before the war ordinarily made the run in 4 hr. 45 min., though regularly scheduled trains between the two cities averaged about 5¼ hr. running time.

Both the 2nd Military Railway Service and the French National Railway System are responsible for the new service, the chief supervisors being Lt. Col. Otto D. Crill, Ponca City, Okla., commanding officer of the 710th railway grand division, Lt. Col. O. H. Osborne, Fort Worth, Tex., Capt. R. P. Daussey, French Army liaison officer, and M. J. C. Mierre, technical advisor to the 710th.

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Official U. S. Army Photo

Locomotive Is Named "W. A. C. Blazer"

When the Transportation Corps, European Theatre of Operations, recognized the work of the Women's Army Corps in T. C. service by naming a locomotive in its honor, even Maj. Gen. Frank S. Ross, chief of transportation, turned out for the occasion. He stands just back of W. A. C. Corporal Maxine G. Vaught, of Evansville, Ind., (center) who is about to christen the locomotive. Capt. Joy E. Fincke, of New York City, is at the microphone. The christening took place in the Paris railroad yards.

Robins Is Named Director of W. P. B. Equipment Division

F. B. Robins has been appointed director of the Transportation Equipment Division of the War Production Board, succeeding George M. Cornell, whose appointment as assistant to the president of the Virginian was noted in the *Railway Age* of January 6, page 135.

Mr. Robins was born September 17, 1900, at Richmond, Va., and was graduated from Massachusetts Institute of Technology in December, 1923, with an S. B. degree. The following month he entered railroad service with the Chesapeake & Ohio, being assigned to the chief engineer's office. He remained there until 1927 when he went to the New York Central for a year's service in the office of the principal assistant engineer at Cleveland, Ohio.

In 1928, Mr. Robins returned to the C. & O. chief engineer's office, and in 1932 he was transferred to that road's maintenance of way department as assistant general supervisor of bridges and buildings. He remained in that position until he came to Washington, D. C., in November, 1941, joining the staff of the Automotive, Transportation, and Farm Equipment Branch of the Office of Production Management, predecessor to the W. P. B.'s Transportation Equipment Division.

When the latter was set up, Mr. Robins continued with it until June, 1943, when he joined the Association of American Railroads' staff as a technical analyst. He returned to W. P. B. in August, 1944, as a staff member of the Transportation Equipment Committee, Combined Production and Resources Board. A month later he joined the Office of Defense Transportation staff as assistant director of the Division of Materials and Equipment, the position he was holding at the time of his appointment to the directorship of W. P. B.'s Transportation Equipment Division.

Rail Tonnage Step-Up Reported for French Railroads

More than a million tons of freight, "much of it for front-line troops," was carried by French railroads in November, it has been disclosed in a dispatch from Headquarters, European Theater of Operation. This represents a step-up in tonnage of 20 per cent over freight carried in October. It is reported also that with the opening of rail communications to all parts of France, as well as into Belgium, more than 200 troop and hospital trains, in addition to those trains in freight service, were operated from the Cherbourg peninsula to the forward army areas during November.

By the end of this same month, 3,229 miles of single-track and 3,617 miles of double-track lines had been placed in operation in liberated France and Belgium. As the release puts it: "The rail network was proving a welcome relief to the overstrained truck transportation system upon

which the Army had been forced to depend following the Normandy break-through."

About 1,700 captured locomotives have been returned to the French and 30,000 pieces of rolling stock placed in service, the report adds.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since January 8, and which are of interest to railways:

Lumber—Order L-335, and eight directions to the order (Directions 1 through 8) were amended January 5, to reduce the amount of lumber that may be sold without control, and to establish additional controls over particular species and grades that are in critically short supply. Each sawmill covered by Order L-335 is now permitted to ship lumber only on certified orders except when specifically authorized by W. P. B. to fill uncertified orders.

Authorization, for which requests must be made by letter, will be granted to the individual sawmill only when certified orders cannot be obtained. W. P. B. must be convinced that the mill has exhausted all efforts to get certified orders for this lumber, officials pointed out.

Direction 1, covering sawmill shipments of Douglas fir, white fir, Noble fir, Sitka spruce (except aircraft grade) and West Coast hemlock, formerly permitted mills producing less than 25,000 S. C. M. per day to sell lumber to consumers and distributors on uncertified orders. The new amendment withdraws this permission. The mills may fill uncertified orders only if specifically authorized by W. P. B.

Similar withdrawal of permission to small mills to sell on uncertified orders is made in amendments to Direction 3, California redwood; Direction 4, Southern yellow pine; and Direction 5, red and yellow cypress.

Direction 2, covering western pine lumber produced in the western pine area, is amended to require mills cutting more than 5,000 f. b. m. per day to give preferential treatment to military orders. Mills cutting less now are prohibited from selling on uncertified orders except on specific W. P. B. authorization.

Direction 2-a as amended provides that mills cutting more than 5,000 f. b. m. per day may ship western pine lumber only on special western pine certifications.

Provisions of Directions 1, 3, 4 and 5, requiring mills larger than the stated sizes to give preferential treatment to military orders, remain unchanged.

Direction 6 as amended prohibits mills and distributors from delivering and consumers from receiving without specific W. P. B. authorization any No. 1 common and better grades of eight species of hardwood produced by mills cutting 5,000 f. b. m. or more per day of hardwood lumber. Species affected are white oak, red oak, birch, beech, pecan, rock elm, hard maple and tough white ash. The restriction also applies to special grades which are the equivalent of No. 1 common or better, and to mixed grades which include No. 1 common and better. Special certificates, in addition to the regular certificates required under L-335, must be used by consumers in placing purchase orders for the affected hardwoods.

Direction 7 now permits only No. 4 or lower grades of Douglas fir, southern yellow pine, western hemlock and Sitka spruce; E grades of Douglas fir and western hemlock; redwood dunnage; No. 3 or lower grades of cypress to be sold on uncertified orders.

Three directions (8-a, 10 and 14) which are no longer applicable are revoked. Direction 12 (lumber for approved privately financed dwelling projects) is amended to remove certain temporary provisions.

Class I consumers are now permitted to place advance orders for delivery in future quarters for amounts not to exceed 75 per cent of the current quarter's authorization, instead of 50 per cent as formerly permitted. Class I consumers may accept delivery 15 days in advance of the quarter for which delivery was requested.

Steel Scrap—To assure an adequate supply of carbon steel scrap for the production of war materials in electric furnace and acid open hearth steel plants and iron and steel foundries, Direction 1 to GPO M-24 has been issued restricting all basic open hearth steel ingot producers from accepting further shipments of electric furnace and foundry steel scrap.

Steel Tanks—Manufacturers of plumbing and heating tanks may produce only 25 per cent of their yearly quotas during any one calendar quarter. This action was taken because it was felt that the critical man-power situation necessitates keeping quarterly production at a minimum in order that man-power may be used in production of other essential equipment, W. P. B. said.

Surplus Property—The Surplus Property Board today announced that a pamphlet containing Sections XII, XIII, XIV, and XV of the Handbook of Standards for Describing Surplus Property is now available at the Superintendent of Documents at a price of 10 cents a copy. These sections cover the following classes of property: XII, Railroad Transportation Equipment; XIII, Aircraft and Aircraft Components; XIV, Ships, Small Water Craft and Marine Mechanical Equipment; and XV, Motor Vehicles, Tractors and Miscellaneous Transportation Equipment.

It was emphasized that this publication is not a list of surplus property that is available for sale. The Handbook of Standards for Describing Surplus Property was undertaken by the W. P. B. last year at the request of the Surplus War Property Administration to establish minimum standards to be used by contractors and Government owning agencies in describing inventories. These standards are designed to furnish sufficient information in commercial terms to allow a surplus property disposal agency to arrange for resale without calling upon the owning agencies for additional items of description.

The handbook, in its entirety, will consist of 22 sections, 6 of which have now been issued. Sections I and II, dealing respectively with Metals and Metal Basic Products and Wood Basic and Finished Products have previously been published, and Section IX, Industrial and Service Machinery and Equipment, will be available within three weeks. The remaining sections are expected to follow promptly.

Prices

Cement—Manufacturers of cement in the states of Wisconsin, Illinois, Indiana, western Kentucky, North and South Dakota, Minnesota, Iowa and eastern Missouri, have been granted an increase not to exceed 20 cents per barrel in their present maximum prices, according to Amendment No. 9 to MPR-224. Effective January 8, the increase applies to all types of Portland cement, except white cement, and includes masonry cement and other special types. The increased price may be charged where the sale is made f. o. b. a mill within the area, or on a delivered basis to a destination point within the area covered by today's action.

This action does not permit producers of ready-mixed concrete, concrete products, and other products in which cement is used, to increase their present maximum prices unless future specific authorization to do so is granted by O. P. A.

Fire Brick and Clay—An increase of three per cent in present ceiling prices of fire clay and silica refractory brick produced in the area east of the Mississippi River, and in the State of Missouri, was announced in Amendment 67 to Order A-1 Under MPR-188, effective January 8.

Jobbers and dealers purchasing the products affected by today's action are permitted to add to their ceiling prices the actual dollar-and-cent amount of increase resulting to them from the adjusted producers' prices.

Iron and Steel Scrap—Dealers or brokers may not pay more than ceiling prices where iron and steel scrap is purchased for shipment directly from producers to consumer.

Malleable Iron Castings—Dollar-and-cent ceiling prices at the foundry level for small orders of malleable iron castings are provided by Amendment 9 to MPR-241, effective January 13.

Generally, the new ceilings reflect the average of current prices charged by foundries on small orders, except that in some cases they are lower than those the seller would be entitled to if calculated on the basis of October, 1941, price factors. However, the new dollar-and-cent ceilings are optional. The castings producer may continue to use the old "formula" prices if he desires. But, once he elects to use a new dollar-and-cent ceiling price for an item, he must continue to use that ceiling for the item. He may not switch back to formula pricing.

Southern Hardwood—The following ceiling prices have been established for Southern hardwood lumber, green or dry, and loaded on rail cars for delivery within a 30-mile radius:

For ungraded Southern hardwood lumber, maximum prices producing mills may charge are $32 per M. b. m. for lumber 1 in. 1¼ in. or 1½ in. thick, $29 for 2 in., and $28 for thicknesses greater than 2 in.

For lumber graded by a buyer authorized by O. P. A. to inspect and grade hardwood lumber, ceiling prices are the usual mill maximum prices for the species and grades less five per cent. The five per cent deduction serves to compensate the buyer for inspecting and grading the lumber.

For "residual" ungraded lumber sold by a mill which sells hardwood on grade on authorized buyers' inspection, the maximum price is established at $20 per M. b. m.

If the buyer incurs any delivery or loading expenses within the 30 miles, other than rail freight, the price for the lumber must be reduced $2.50 per M. b. m.

Southern Pine—Charges of $7 per bulkhead and $7.50 for staking, wiring, and separating, for special loading of open-top rail car shipments of Southern pine lumber 4 in. or less in thickness have been established by Amendment 6 to Second RMPR-19, effective January 15.

The premium of $1 per M. b. m. for extra standard thickness boards and dimension lumber was removed on January 15.

Maximum prices for 11/16-in. boards, dressed both sides, are established as $2 per M. b. m., less than the price of ¾-in. boards. For boards under 11/16-in. maximum prices are established as the price of the stock from which they are cut, plus resawing charges.

Southern Pine—Lumber manufacturers, wholesalers, commission men and their customers have been told by the O. P. A. that the impression held in some parts of the trade that all shipments of Southern pine lumber may be priced as "specified lengths" is erroneous. "Specified length" ceiling prices may be charged only when the order from the buyer specifically states the exact quantity of each length which the shipment must contain, and the resulting assortment is not substantially a random length shipment. "Random length" prices must be charged for "random length" shipments.

Steel Products—Interim increases of $2 to $5 per ton in the ceiling prices for five basic steel products at the mill level, the first industry-wide price rises in basic steel products since 1939, or two years before the beginning of O. P. A. price control, have been provided by Amendment 11 to RPS-6. They are made on an interim basis, O. P. A. said, pending the completion of a cost study now under way. The increases are based upon a need for adjustment in prices of these products that existed before labor wage adjustments became effective on December 30, 1944, O. P. A. said.

Labor costs used in determining the price increases announced today were based on wage rates in effect prior to the December 30, wage adjustment.

The increases, which became effective on shipments as of January 11, are as follows:

1.—Hot rolled carbon plates produced to sheared mill or universal mill width and length tolerances, 10 cents per 100 lb.

2.—Hot rolled carbon steel sheets, 10 cents per 100 lb.

3.—Galvanized sheets, roofing and siding, 15 cents per 100 lb.

4.—Rails, all types and grades, $3 per gross ton.

5.—Nails and staples, other than galvanized, 25 cents per 100 lb.

Eastern basing point base prices for hot rolled carbon plates and sheets are $2.10 per 100 lb.; for galvanized sheets, $3.50 per 100 lb.; for rails, $40 per gross ton, f. o. b. mill; and for nails and staples, $2.55 per 100 lb.

The increases authorized today may be added by mills to delivered prices for these products, which are made up of the base price plus extras and transportation. The increases may be applied to Gulf and Pacific Coast prices in the same way.

GENERAL NEWS

Rule to Show Cause Follows Accidents

I. C. C. wants more protection for movements against the current of traffic

An order to show cause why it should not be required to "revise its operating practices so as to provide adequate protection when trains are moved against the current of traffic" has been served on the Pennsylvania by Commissioner Patterson for the Interstate Commerce Commission as a result of findings in an investigation of a head-on collision between two freight trains near Newport, Pa., on November 14, in which the resulting wreckage was struck by a passenger train moving on an adjacent track.

Twelve passengers and 7 employees were injured in this accident, which was described in the show cause order as "serious." The road was given until February 15 to reply to the order.

At the point of the collision, which is about 27 miles west of Harrisburg on the road's main line from that city to Pittsburgh, train movements with the current of traffic are controlled by automatic block and cab signal systems, while movements against the current of traffic are by train orders and manual block system. There are four main tracks, designated from south to north as No. 1, eastward passenger, No. 2 eastward freight, No. 3, westward freight, and No. 4 westward passenger. The accident was at a point 0.2 mile east of Newport, in a signal block which extended from Port to View, interlockings located 1.4 miles west and 13.1 miles east of Newport, respectively.

Hold Order to Tower—Prior to the accident, due to congestion on tracks Nos. 3 and 4, a train order was issued at View to freight Extra 6826 West, authorizing it to proceed to Port on track no. 2, that is, against the current of traffic. Before that order was transmitted, the operator at Port was instructed by the dispatcher to hold all eastward trains clear of No. 2 track between Port and View. The operator then should have set the eastward home signal for track No. 2 at stop, and have blocked the signal operating lever by the standard blocking device provided (which was a wooden wedge fitted with a metal clamp and set screw), but he failed to do so. His explanation was that he probably had applied the blocking device to some other lever in error, although he had advised the dispatcher that the lever was in position for the signal controlling track No. 2 to display stop, at the time he took the order to hold eastward trains clear of that track.

At 9.02 p. m. the operator at View received block authority from the operator at Port to admit Extra 6826 West to the block. This train passed the block station at View on track No. 2 at 9.18 p. m. About 9.23 p. m. Extra 6977 East, a freight moving on track No. 2, passed the eastward home signal at Port under a proceed indication. Soon after the engine of this 102-car train had passed the tower the operator discovered his error in displaying a proceed indication for this train and gave stop signals with a white light. When the caboose was passing the tower the conductor saw these signals, and made a service brake pipe reduction. The train stopped about 9:25 p. m., with the front end standing about 1.6 miles east of the tower.

Flags Unnoticed—The crew members at the front of Extra 6977 were not aware of anything being wrong until several minutes after that stop was made, when the cab signal in the engine was observed displaying a restrictive indication. Flag protection was immediately provided on all tracks, and a westbound train moving on track No. 3 was flagged to a stop. Westbound Extra 6826 was then approaching on track No. 2, but the flagging signals were not observed in time to avert a collision with the eastbound freight on the same track, at about 9:33 p. m. The tender of the engine and the first two cars of Extra 6977 were derailed and stopped across track No. 1. Extra 6826 was moving at about 20 m. p. h. when the collision occurred. Its two engines remained on the track, but the first six cars were derailed, obstructing all main tracks.

(*Continued on page 209*)

Harvard Is Researching in Airport Finance

The Harvard Graduate School of Business Administration is engaged in a research study of airport management and financing.

The inquiry tentatively comprehends an analysis of airport expenses, problems of cost allocation, an explanation of the sources of airport revenue, the business administrative aspects of airport operation, budgetary control procedures, and such other aspects of airport management as may be found important as the study progresses.

The research is beginning with detailed case studies of numerous specific airports, selected to exemplify different conditions and practices.

Bureau of Safety Surveys Fiscal '44

War situation had "unfavorable effect on hours of service conditions," it reports

How wartime traffic demands and manpower shortages have had an "unfavorable effect upon hours of service conditions" is emphasized in the annual report of Director S. N. Mills of the Interstate Commerce Commission's Bureau of Safety for the fiscal year ended June 30, 1944. The report, which went to Congress last week, is a 39-page document setting forth in the usual form the results of inspection of safety-appliance equipment on railroads together with information on hours-of-service records of employees, installations of signaling facilities, investigations of accidents, and other activities of the bureau.

Excessive Hours—The year under review brought reports of 86,891 instances of all classes of excess service by employees, including 28,138 instances of excess service by train-service employees subject to the 16-hour provision of the law, and 58,753 instances of excess service by operators and other employees subject to the 9-hour and 13-hour provisions of the law. The above total exceeded the 84,825 instances of excess service reported for the five-year period from fiscal 1939 to fiscal 1943, inclusive. The total for fiscal 1943 was 55,084.

"Wartime measures and conditions" was the principal reason given for fiscal 1944's excess service among train-service employees; it accounted for 10,034 cases. Among the operators and other employees subject to the 9-hour and 13-hour provisions, the principal cause was "sickness, death, and personal injury," which accounted for 49,851 cases. The report notes that the latter was an increase of 26,466 instances as compared with the previous year, adding that the responsibility for this "may in large measure be attributed to an epidemic of influenza which prevailed in some portions of the country during the winter months."

"Incompetent Operators"—Meanwhile many other instances of excess service were reported to be due to inability to secure the required number of employees. "Investigations," the report went on, "have confirmed the shortage of manpower, particularly in the positions of telegraph operators. The shortage of manpower has in some instances led to employment of incompetent operators, as has been disclosed by investigation of accidents. Many instances also have been found where two

operators were required for considerable periods to perform the greatly inrceased work of an office which in normal times was manned by three operators. To reduce the hazards which result from the employment of inexperienced operators and overworking competent operators, some railroads have established schools for instruction and training, from which employees for this service are recruited."

During the fiscal year a total of 1,456,317 cars and locomotives was inspected, and 44,204 or 3.03 per cent were found defective. That is the highest defective percentage of the 1935-1944 decade, the nearest approach being fiscal 1941's 2.91. The percentage for fiscal 1943 was 2.82. Included in the rolling stock inspected in fiscal 1944 were 33,669 passenger-train cars, of which 930 or 2.8 per cent were found defective, 1,268 defects being reported.

Air Brake Status—Air-brake tests were made on 3,870 trains, consisting of 170,473 cars, prepared for departure from terminals; and air brakes were found operative on 170,296 or 99.9 per cent of these cars. This percentage was attained, however, only after 1,907 cars having defective brakes had been set out, and repairs had been made to the brakes on 1,881 cars remaining in the trains. Like its predecessors, the report emphasizes this situation, saying: "These trains had been prepared for departure; yet when afterward tested by our inspectors it was necessary to set out or to repair the brakes on an average of one car per train."

Similar tests on 1,812 trains arriving at terminals with 92,371 cars showed that the air brakes were operative on 98,19 per cent of the cars. Cars with inoperative brakes averaged approximately one per train, the same as in the preceding year.

Commenting on the program for equipping cars with AB brakes, the report notes that the year brought an increase of 137,517 in the number of cars thus fitted—42,844 of them being new cars. It also notes that "during 9½ years, or 95 per cent of the 10-year period allotted for making this improvement only 45.4 per cent of the freight cars in interchange service have been equipped with the present standard air-brake apparatus." Meantime, as the report further points out, the commission on July 29, 1944, issued its order requiring the carriers to show cause why all freight cars should not be required to be equipped by January 1, 1946.

Hand Brakes—The bureau has continued its cooperation with the Association of American Railroads with respect to tests of geared hand brakes. Thus far 12 types of vertical-wheel geared brakes have been certified as conforming to A. A. R. requirements; and final action on other than vertical-wheel types is pending. The A. A. R. has also certified five designs for metal running boards for freight cars.

As of January 1, 1944, there were 111,872 miles of road (144,789 miles of track) equipped with block signals, including automatic block signals on 67,620 miles of road (98,873 miles of track). On the same date there were 4,452 interlockings in operation, and 10,688 miles of road (20,724 miles of track) were equipped with automatic train-stop, train-control, and cab-signal devices. The report lists and indicates the present status of cases wherein the commission acting "upon conditions disclosed in connection with the investigaton of accidents," has issued orders calling upon railroads to show cause why they should not be required to install the block-signal system or other safety devices on parts of their lines.

Safety Appliances—Alleged violations of safety appliance laws in 284 cases comprising 803 counts were transmitted to United States attorneys during the year; also, 65 cases comprising 600 counts alleging violations of the hours-of-service law. The report's section on the bureau's accident-investigation work shows that 102 accidents were investigated during the year; in them 377 persons had been killed and 1,722 injured.

Responding to requests of proprietors or their agents, the bureau, during the year, examined plans and specifications and rendered opinions on 12 safety devices. "These devices," the report says, "included one device for removal of obstructions from railroad tracks in advance of an approaching train, one track-circuit-shunting device, one safety lighting system, six devices for prevention and detection of hot journals, one safety guard for car wheels, one concrete tie, and one interlocking rail."

Judge Charles M. Hay Dies

Judge Charles M. Hay, deputy chairman and executive director of the War Manpower Commission, died following a heart attack in Washington, D. C., on January 16. He had recently been acting chairman of W. M. C., and was appointed last week by Director Johnson of the Office of Defense Transportation to the War Committee on Conventions, set up to act on requests for approval of meetings of more than 50 persons.

Judge Hay was formerly counsel for the Railway Labor Executives' Association, and in that connection was active in wage cases, most recently as chief counsel for the operating brotherhoods in the so-called Morse board proceedings of 1941.

Senate Interstate Commerce Committee Organizes

The Senate committee on interstate commerce has organized for the seventy-ninth Congress with Senator Wheeler, Democrat of Montana, continuing as chairman and five new members. The new members are: Senators Hoey of North Carolina, Johnston of South Carolina, Myers of Pennsylvania, McMahon of Connecticut, Democrats, and Capehart of Indiana, Republican.

The remaining members, who were on the committee in the seventy-eighth Congress, are: Senators Barkley of Kentucky, Johnson of Colorado, Stewart of Tennessee, Tunnell of Delaware, McFarland of Arizona, Democrats, and White of Maine, Austin of Vermont, Shipstead of Minnesota, Tobey of New Hampshire, Reed of Kansas, Gurney of South Dakota, Hawkes of New Jersey, Moore of Oklahoma, Republicans. Senator Truman, Democrat of Missouri, also continued as a member of the committee during Congress' opening weeks, but he resigned this week to take his oath of office as Vice-President on January 20.

Senators Wagner of New York, Hill of Alabama, Democrats, and Senator Brooks of Illinois, Republican, were members of the committee in the last Congress, but resigned to accept other committee assignments. Other former members were the late Senator Smith of South Carolina and former Senator Clark of Idaho, Democrats, who were defeated last year in primary elections; and former Senator Bone, Democrat of Washington, who resigned to accept appointment to a federal judgeship.

G. C. T. Has Travel Clearing House for Servicemen

To expedite the handling of train military reservations, there was opened in Grand Central terminal, New York, on January 11, a travel clearing house for men and women in the armed services. An auxiliary Second Transportation Zone office, the new clearing house is located in a newly-erected booth in the north gallery of the station, and has been staffed by Second Transportation Zone personnel. Under the new system, servicemen will first receive clearance from this office before going to the regular ticket offices to pick up their space.

Railroad, naval and army officers in attendance at the opening included: Gustav Metzman, president, New York Central Howard S. Palmer, trustee, New York, New Haven & Hartford; Maj. Gen. Thomas A. Terry, Second Service Command; Rear Admiral Stanley Parker, District Coast Guard Officer; Capt. D. C. Patterson, Navy Personnel Officer, Third Naval District; Col. H. L. Parsons, U. S. Marine Corps; F. H. Baird, general passenger traffic manager, New York Central; and Col. E. C. R. Lasher, Zone Transportation Officer.

Mediation of Vacation Dispute Continues

Mediation of the demands of the non-operating unions for longer vacations with pay continued this week and, at the time of going to press on January 18, the three members of the National Mediation Board —former Senator H. H. Schwartz, chairman, George A. Cook and Frank P. Douglas—had been unable to settle the differences. The unions are asking 12 days' vacation with pay for all employees who have worked at least 160 days in the preceding calendar year, 15 days after two years of continuous service and 18 days after three years. Mediation was invoked by the unions in December when negotiations failed and the board began mediation at Chicago on January 9.

Transport Equipment Sections of Surplus Board Handbook

The Surplus Property Board has announced that a pamphlet containing the transportation equipment sections of the Handbook of Standards for Describing Surplus Property is now available at the Superintendent of Documents at a price of 10 cents a copy. The section numbers and the property covered are as follows: XII, Railroad Transportation Equipment; XIII, Aircraft, and Aircraft Components; XIV, Ships, Small Water Craft, and Marine

Mechanical Equipment; and XV, Motor Vehicles, Tractors, and Miscellaneous Transportation Equipment.

It is emphasized that the publication is not a list of surplus property for sale. Its purpose is to establish minimum standards to be used by contractors and government owning agencies in describing inventories. The standards are designed to furnish sufficient information in commercial terms to allow a surplus property disposal agency to arrange for resale without calling upon the owning agencies for further descriptions.

Pacific Electric Wage Boost

After determining that the "Little Steel" formula precluded the nine-cents-per-hour increase demanded for Pacific Electric passenger-service employees by the Brotherhood of Railroad Trainmen, a National Railway Labor Panel emergency board has found a way to give the employees involved an eight-cent raise, effective January 1. The board, appointed December 6, 1944, by Panel Chairman H. H. Schwartz, recently made its report to President Roosevelt, and the findings were summarized in a White House announcement of last week.

Five cents of the eight-cent increase, the announcement explained, "was based upon an allowance for claims in lieu of time and one-half pay for work performed over 40 hours per week on the same basis as was granted to virtually all railroad train and engine service employees in the President's arbitration award of December 27, 1943." The remaining three cents "was granted to reduce the differential existing between the freight and passenger service employees on the Pacific Electric, and, also, to bring rates of pay more in line with rates paid to comparable groups on the Los Angeles Railway."

Members of the emergency board were: Chairman James H. Wolfe, justice of the Supreme Court of Utah; Walter Gilkyson, attorney of New Hartford, Conn.; and Dr. A. G. Crane, former president of Wyoming State University. Public hearings were held in Los Angeles, Calif., from December 13 to December 22, 1944. As required by the stabilization extension act of 1944, the board certified that its award was "consistent with the standards as established by or pursuant to law, for the purpose of controlling inflationary tendencies." The employees' demand for a nine-cent increase was based on a contention that they should be accorded the same treatment as P. E. freight-service employees who obtained an increase of nine cents late in 1943.

Will Arbitrate S. P. Case

The Southern Pacific and 14 labor organizations representing its employees have agreed to submit to arbitration a request of the employees for a voice in the operation of the road's hospitals. A six-man arbitration board has been set up with two representatives of the S. P., two representatives of the employees and two "neutral" members.

The S. P. representatives are L. B. McDonald, operating vice-president, and J. G. Torian, manager of personnel; union representatives are M. H. Barney, vice-president of the Order of Railway Conductors, and G. E. Leighty, vice-president of the Order of Railroad Telegraphers; and the "neutral" members are Lief Erickson, former justice of the Supreme Court of Montana, and Colonel Grady Lewis of Washington, D. C.

First Baldwin Road Diesel Tested on the B. & O.

A high-speed Diesel-electric locomotive, in the design of which knowledge gained from war-time railroad operations has been incorporated, has been on trial during the past week on the Baltimore & Ohio between Baltimore, Md., and Washington, D. C. The locomotive, the first road type for through service built by the Baldwin Locomotive Works, in collaboration with the Westinghouse Electric & Manufacturing Co., has two 1,000-hp. eight-cylinder Diesel engines, mounted fore and aft. These engines and the electrical facilities are similar to those in Baldwin-Westinghouse switching and transfer locomotives now in extensive use.

The underframe, trusses, and sides of the locomotive are welded together to form the equivalent of a single piece of rigid steel which it is expected will provide greater resistance to impact and a minimum of vibration. The cooling system for the engines is thermostatically controlled. Although designed primarily to pull freight trains at high speed, the locomotive handles passenger trains also and is said to perform equally well forward or backward.

Special arrangements were made with the B. & O. to use its facilities for the test. Charles E. Brinley, chairman of the board of directors of the Baldwin Locomotive Works, rode in the cab of the locomotive on its first trip. It has been making three round-trips daily between Baltimore and Washington during the past week.

A twin unit is now under construction. Coupled together, the two units can form a 4,000-hp. locomotive where high capacity is needed.

I. C. C. Accident Report Finds Speed Too Much for Track

A finding that trains were authorized to operate at "excessive speeds in view of the light rail in use and the inadequate maintenance of the track" was incorporated in a report of the Interstate Commerce Commission, by Commissioner Patterson, discussing the derailment near Hortense, Ga., on November 18, 1944, of an 18-car, Diesel-electric powered Atlantic Coast Line passenger train. The immediate cause of the accident was a broken rail resulting from the presence of a transverse fissure.

Signal at "Proceed"—The circumstances of the accident were outlined in *Railway Age* of December 2, 1944, page 853, in a letter in which C. McD. Davis, president of the road, described in detail the history of the 100-lb. rail involved, the track structure in the vicinity, and the location of the fissure within the bond-wire connection at the rail joint. Although the line was equipped with an automatic block signal system, the report noted that the signals covering this segment of track displayed proceed for the train concerned, even after the break apparently had occurred, because the break was inside the bond-wire connection, and so did not affect the controlling circuit.

The train, No. 91, the southbound "West Coast Champion," was traveling about 85 m.p.h. in territory where the maximum authorized speed was 90 m.p.h. The derailment occurred on level, tangent main line

The First 2,000-Hp. Diesel-Electric Road Locomotive Built by the Baldwin Locomotive Works, in Collaboration with the Westinghouse Electric & Manufacturing Company

Selected Income and Balance-Sheet Items of Class I Steam Railways

Compiled from 131 reports (Form IBS) representing 135 steam railways
(*Switching and Terminal Companies Not Included*)

All Class I Railways

Income Items	For the month of October 1944	For the month of October 1943	For the ten months of 1944	For the ten months of 1943
1. Net railway operating income	$97,346,466	$113,311,202	$945,315,436	$1,195,867,337
2. Other income	14,843,288	17,185,390	149,098,008	142,515,631
3. Total income	112,189,754	130,496,592	1,094,413,444	1,338,382,968
4. Miscellaneous deductions from income	2,686,549	3,118,978	32,460,621	25,482,735
5. Income available for fixed charges	109,503,205	127,377,614	1,061,952,823	1,312,900,233
6. Fixed charges:				
6-01. Rent for leased roads and equipment	13,053,827	13,590,196	133,585,869	144,634,644
6-02. Interest deductions[1]	33,787,835	35,591,304	336,778,232	359,274,743
6-03. Other deductions	118,060	123,193	1,285,965	1,236,286
6-04. Total fixed charges	46,959,722	49,304,693	471,650,066	505,145,673
7. Income after fixed charges	62,543,483	78,072,921	590,302,757	807,754,560
8. Contingent charges	2,721,634	2,396,109	27,465,494	23,821,850
9. Net income	59,821,849	75,676,812	562,837,263	783,932,710
10. Depreciation (Way and structures and Equipment)	27,280,169	26,432,019	267,502,988	263,374,485
11. Amortization of defense projects	17,042,773	13,608,927	154,630,147	114,345,333
12. Federal income taxes	119,901,572	108,382,811	1,136,056,451	1,174,689,695
13. Dividend appropriations:				
13-01. On common stock	14,458,204	2,134,561	109,525,739	98,497,947
13-02. On preferred stock	4,673,272	4,781,378	25,676,746	25,188,553
Ratio of income to fixed charges (Item 5 ÷ 6 – 04)	2.33	2.58	2.25	2.60

All Class I Railways

Selected Asset and Liability Items	Balance at end of October 1944	Balance at end of October 1943
20. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$589,379,238	$586,916,554
21. Cash	1,262,885,355	1,212,160,542
22. Temporary cash investments	1,790,408,936	1,654,199,107
23. Special deposits	199,436,309	162,971,735
24. Loans and bills receivable	427,202	240,452
25. Traffic and car-service balances—Dr.	45,312,751	37,395,727
26. Net balance receivable from agents and conductors	150,204,826	166,367,936
27. Miscellaneous accounts receivable	629,538,660	649,550,288
28. Materials and supplies	605,797,644	528,616,493
29. Interest and dividends receivable	30,771,752	25,367,607
30. Rents receivable	1,920,649	1,637,409
31. Other current assets	64,676,210	57,724,346
32. Total current assets (items 21 to 31)	4,781,380,294	4,496,231,642
40. Funded debt maturing within 6 months[2]	235,007,558	80,665,816
41. Loans and bills payable[3]	12,138,386	20,492,602
42. Traffic and car-service balances—Cr.	209,103,605	150,478,097
43. Audited accounts and wages payable	458,359,537	496,225,557
44. Miscellaneous accounts payable	130,955,955	114,706,227
45. Interest matured unpaid	54,568,011	57,578,917
46. Dividends matured unpaid	3,336,887	2,916,854
47. Unmatured interest accrued	69,223,830	68,690,555
48. Unmatured dividends declared	15,501,969	11,801,709
49. Unmatured rents accrued	28,141,569	28,873,972
50. Accrued tax liability	1,929,505,971	1,735,920,674
51. Other current liabilities	124,121,398	80,760,158
52. Total current liabilities (items 41 to 51)	3,034,957,118	2,678,445,322
53. Analysis of accrued tax liability:		
53-01. U. S. Government taxes	1,778,116,375	1,579,398,610
53-02. Other than U. S. Government taxes	151,389,596	156,522,064

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term (other than long-term debt in default) which will become due within six months after close of month of report.
[3] Includes obligations which mature not more than one year after date of issue.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

single track at a point 77.25 miles north of Jacksonville, Fla. The rear truck of the third of the three Diesel-electric units, the first to thirteenth cars, inclusive, and the front trucks of the fourteenth and fifteenth cars were derailed. All cars were of steel construction. The derailed equipment was considerably damaged, although the first car and the seventh to thirteenth cars, inclusive, stopped practically upright. The second to the sixth cars, inclusive, stopped on their left sides in various positions with respect to the track. These cars were, in order from the front, a mail car, express car, passenger-baggage car, coach, and diner. There were no fatalities, but 110 passengers, 2 mail clerks, and 22 employees were injured, according to the commission's report.

Break Not Detected—The track involved was last inspected about 36 hrs. prior to the accident, at which time no defective condition was observed. A rail-detector car had been operated over the line on November 11, a week before the accident, and had not indicated any defective condition at the point of the rail break, although transverse fissures were disclosed about ¼ mile south, at which point two defective rails had been replaced. It was added, however, that the detector car would not indicate a transverse fissure located so close to the rail joint as that involved in this accident.

Pointing out that the average daily movement of trains in the vicinity of Hortense had been 27.16 trains in the month prior to the accident, and that the track foreman, with an average force of five men, was responsible for the maintenance of about 12 miles of track, the report noted that the last general repair work at the scene of the accident was performed in August, 1944.

Track Conditions—It went on to say that, "After the accident, examination of the track disclosed numerous irregularities throughout a distance of 3,420 ft. immediately north of the point of derailment. Eighteen rail joints on the east side and 23 on the west side of the track were from ⅛ to ¾ in. low. Tie plates were missing at 5 locations and spikes were missing at 26 locations. These conditions indicate that the operation of trains in this territory had been such that excessive stresses were being exerted upon the track structure, without adequate maintenance measures having been provided." Then followed the finding with respect to excessive speed, in view of rail weight and maintenance conditions, which was noted above. The report concluded with the comment that, "After the occurrence of this accident, in the carrier's timetable issued December 17, the maximum authorized speed of the schedule involved was reduced from 90 to 75 m.p.h."

Heating of Hospitals Cars—A Correction

In the descriptive article covering 100 new hospital cars, built for the army by the American Car and Foundry Company, it was incorrectly stated on page 965 of the *Railway Age* issue of December 23, that "the cars are heated by a low pressure steam-heating system. . . ." As a matter of fact steam heat equipment on all of these cars was supplied by the Vapor Car Heating Company and consists of vapor (not low-pressure) system, thermostatically controlled in the various zones of the car.

Heads Transportation Unit of Commerce Department

James C. Nelson has been appointed chief of the Transportation Unit of the Bureau of Foreign and Domestic Commerce, United States Department of Commerce. He comes to the Commerce Department from the Office of Defense Transportation where he has been assistant director of the Division of Review and Special Studies of the Office of Defense Transportation.

Mr. Nelson was formerly associated with the now defunct Board of Investigation & Research as assistant director of research in charge of the regulatory study. Prior to that he was with the Bureau of Agricultural Economics of the Department of Agriculture; and he contributed the chapter entitled "New Concepts in Transport Regulation" to the former National Resources Planning Board's report on "Transportation and National Policy," which was issued in November, 1942.

Congress Gets Rail Unions' Social Security Bills

Proposals of the railroad labor organizations for liberalizing the Railroad Retirement Act and Railroad Unemployment Insurance Act are again before Congress in bills introduced this week in the House by Representative Crosser, Democrat of Ohio, and in the Senate by Senator Wagner, Democrat of New York, for himself and Senator Wheeler, Democrat of Montana. The Crosser bill is H.R. 1362, and the Wagner-Wheeler bill S.293.

The labor program was before the pre-

vious Congress in the form of a proposed Railroad Social Insurance Act, which would have embodied the retirement and unemployment insurance acts and the liberalizing amendments. This codification plan has now been dropped, only the liberalizing amendments being included in the new bills.

The many bills of interest to the railroads, which were introduced in the new Congress' opening sessions, were listed by title in the *Railway Age* of January 15, page 163. Among them was S.82, introduced by Senator Hill, Democrat of Alabama, "to supplement the national transportation policy and to aid in achieving such policy." This is the same as a bill sponsored by Mr. Hill in the previous Congress to create three new permanent federal transportation agencies as was recommended by the former Board of Investigation & Research.

Wheeler's I. C. C. Bill—The Interstate Commerce Act amendments proposed in S.47 introduced by Senator Wheeler would carry out one of the legislative recommendations in the Interstate Commerce Commission's annual report. They would give the commission authority to prescribe rules for the extension of credit by express companies, and modify the act's provisions relating to the service of notice in commission proceedings and strengthen the commission's authority with respect to examining accounts of companies furnishing railroads with cars or protective services to perishable freight against heat or cold. Approval of the St. Lawrence seaway agreement with Canada is proposed in H.R. 1428 introduced by Representative Dondero, Republican of Michigan. Other bills of interest to the railroads include the following:

H.R. 1370, to prohibit discrimination in employment because of race, creed, color, national origin, or ancestry. (Hook, Democrat of Michigan).

H.R. 1385, concerning seeing-eye dogs on trains. (Talbot, Republican of Connecticut).

H.R. 1406, to amend the Railroad Retirement Act of 1937 so as to provide for the payment of benefits with respect to the month in which an annuitant or pensioner dies. (Angell, Republican of Oregon).

H.R. 1446, to restore standard time. (O'Hara, Republican of Minnesota).

National of Mexico Inaugurates Fast Freight Service

Fast freight service between Mexico City, D. F., and Nuevo Laredo, Tam., on a schedule of 72 hrs. northbound and 65 hrs. southbound was inaugurated by the National Railways of Mexico on January 2. The trains will handle l. c. l. and c. l. freight for Monterrey, Saltillo, San Luis Potosi, Empalme, Escobedo and Queretaro.

Senate Confirms Alldredge and Mahaffie Appointments

The Senate on January 18 confirmed President Roosevelt's reappointments of Interstate Commerce Commissioners Charles D. Mahaffie and J. Haden Alldredge for new terms ending December 31, 1951. The nominations were reported favorably to the Senate from its committee on interstate commerce on January 15.

The committee approved the nominations at an executive session on the morning of the 15th. Messrs. Mahaffie and Alldredge were on hand to meet the committee, but remained only about five minutes. It was stated that no opposition to either was expressed at the committee meeting and Senate confirmation came without objection.

Thus, as had been predicted, the movement to have Mr. Mahaffie replaced with a new commissioner who would "understand" the South's freight-rate problems collapsed when President Roosevelt sent up Mr. Mahaffie's name, thus indicating the President's belief that it was not time for a change.

Per Diem Rate Increase Delayed

Registering its complaint against the January 1 increase from $1 to $1.15 in the per diem rate, the American Short Line Railroad Association has asked the Interstate Commerce Commission to institute upon the commission's own motion an investigation of the reasonableness of charges for the use of freight cars. The petition was signed by J. M. Hood and C. A. Miller, respectively, president, and vice-president and general counsel of the Association.

> The freight car per diem rate increase from $1.00 to $1.15, originally scheduled to become effective January 1, has been delayed pending clearance of the matter with the Office of Price Administration. The notice of the delay came in a December 30 circular of the Operating-Transportation Division, Association of American Railroads, advising that an application had been filed with the O. P. A. in order to avoid possible conflict with the Maximum Price Regulation.
>
> The December 30 circular made the effectiveness of Circular T-160-B (the original announcement of the increase) contingent on favorable action by O. P. A. It also embodied instruction to the effect that no bills were to be rendered or payments made at the $1.15 rate until the matter is cleared.

No C. S. Div. Advice?—It states that the increase was recommended by the board of directors of the Association of American Railroads in a resolution adopted November 14, 1944, and that A. A. R. member roads approved it by letter ballot. In this connection, the Short Line Association petition calls attention to the fact that the 51 rate had been in effect since November 1, 1920, and to Rule 19 of the Code of Per Diem Rules, which it interprets as requiring a Car Service Division recommendation with respect to changes in the rate.

"The Association," the petition continues, "is informed and believes, and so believing avers that the foregoing action was taken without any recommendation by the Car Service Division to the board of directors of the Association of American Railroads that a change in the per diem rate is necessary or desirable."

The A. A. R. board's resolution, as quoted in the petition, contained a second recommendation calling for appointment by the A. A. R. president of a committee "to review the figures" under the $1.15 rate and "report back as of April 1, 1945." The foregoing is called "some indication of a recognition" by the A. A. R. of what the Short Line Association is "informed and believes" to be the "fact" with respect to studies on which the A. A. R. board based its recommendation for the increase, i.e., that they are "fatally defective because they are inconsistent with and contrary to the bases of cost accounting applied by the Interstate Commerce Commission, and result in an inflated cost of car ownership."

Asks Lower Rate—"The increase in the freight car per diem rate," the petition goes on, "is contrary to the trend of the times. The mileage rate on petroleum tank cars was reduced from 1½ cents to 1¼ cents on August 15, 1943. . . . The number of active freight car-days is now substantially double that of the years prior to 1941, and should result in the lowering of the per diem rate. The files and records of the commission show that private car companies lease freight cars for less than $1.15 per car-day and that they operate at a profit. There is evidence to the effect that the average cost of maintaining freight cars has been reduced and that the capital charges against car ownership have decreased since the per diem rate of $1 per day was established.

"The Association has endeavored, but without success, to get the Association of American Railroads to postpone any increase in the per diem rate until after the committee has completed its studies and made its report because it is believed that a properly-prepared cost study will show the cost of car ownership to be less than $1.15 per day."

The petition further asserts that "practically all the members" of the Short Line Association are debit roads so far as per diem is concerned—a provision of Rule 1 of the Code of Per Diem Rules "discourages the ownership of cars by the short line railroads." Thus, as the petition puts it, the per diem costs are "a substantial factor in the operations of short line railroads, and must necessarily be reflected in the rates to be paid by shippers."

Coal Supply Gets Tighter

In line with various moves made by federal government agencies in the past ten days with a view to reducing the consumption of coal, Secretary of the Interior Ickes announced that emergency arrangements had been made for miners in two large southern Appalachian mining districts to work two Sundays this winter in order to keep up production supporting essential war plants. The arrangements were completed after John L. Lewis, president of the miners' union, had signified his favorable attitude toward the proposal.

This measure was necessary, according to a January 16 statement by Secretary Ickes, because "shortages of railroad cars at the mines, owing to the weather's effect on transportation, alone threaten to cut production in the two districts by half a million tons this week." The severe weather was said to have cut coal production materially, with the result that certain steel mills and other war plants are, he said, "dangerously low on fuel."

The mines affected by this arrangement are in southern West Virginia, eastern Kentucky, western Virginia, and northeastern Tennessee. Previously Mr. Ickes, in his capacity as Solid Fuels Administra-

tor, had ordered reductions in shipments of Illinois and western Kentucky coal to industries having more than 20 days' supply on hand, which followed close upon a similar order applying to Indiana coal. This action was taken because of shortages for household use and low industrial stockpiles, it was indicated. Railroads were affected by the same order, since the fuel administrator provided that, from January 15 to 31, no railroad would be permitted to receive any coal produced in the Illinois and western Kentucky fields unless it is willing to accept locomotive fuel containing up to 15 per cent of screenings, if offered by a shipper.

Tied in with such actions was the announcement from the White House of moves directed by James F. Byrnes, director of war mobilization and reconversion, calculated to bring about fuel savings sufficient to meet Secretary Ickes' estimate that 25,000,000 tons less of bituminous coal can be used in 1945 than normal consumption would require. Among the measures initiated by Justice Byrnes are the Office of Defense Transportation order limiting certain categories of passenger train operation, which is outlined more fully elsewhere in this issue, and War Production Board orders restricting outdoor advertising, ornamental and display lighting. In addition, management of hotels, office buildings, theaters, stores, apartments, and government agencies were "urged" to maintain a maximum temperature of 68 deg., while the same admonition was given home owners.

By such actions—the 68 deg. limitation was based on an estimate that a 10 per cent cut in space heating alone, would reduce coal consumption by 14 million tons—Justice Byrnes said he "hoped" coal rationing can be avoided.

New N. M. B. Mediators

Patrick D. Harvey has rejoined the National Mediation Board's staff of mediators after a period of service with the United States Maritime Commission. The N. M. B. announcement stated that the board had secured the transfer of Mr. Harvey from the Maritime Commission.

It also announced the appointment of another mediator—Lawrence Farmer of Upper Darby, Pa., who has had "16 years of railroad service with the Baltimore & Ohio, and is thoroughly familiar with the workings of the Railway Labor Act."

Freight Car Loading

Loadings of revenue freight for the week ended January 13, totaled 782,387 cars, the Association of American Railroads announced on January 18. This was an increase of 99,420 cars, or 14.6 per cent above the preceding week (which included the New Year holiday), an increase of 2,856 cars, or 0.4 per cent above the corresponding week last year, and an increase of 26,889 cars, or 3.6 per cent above the comparable 1943 week.

Loading of revenue freight for the week ended January 6 totaled 682,967 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, January 6

District	1945	1944	1943
Eastern	122,800	147,830	138,626
Allegheny	145,591	166,091	150,803
Pocahontas	50,197	55,880	50,970
Southern	113,277	117,790	114,820
Northwestern	72,483	88,964	79,827
Central Western	112,632	120,616	114,552
Southwestern	65,987	72,458	67,578
Total Western Districts	251,102	282,038	261,957
Total All Roads	682,967	769,629	717,176
Commodities			
Grain and grain products	39,555	54,730	48,391
Live stock	15,339	17,179	15,559
Coal	149,234	177,141	157,080
Coke	12,995	14,992	15,367
Forest products	31,144	37,547	37,135
Ore	9,870	14,453	14,723
Merchandise l.c.l.	89,184	99,995	85,507
Miscellaneous	335,646	353,592	343,414
January 6	682,967	769,629	717,176
December 30	.....	584,757	643,444
December 23	.....	762,449	641,036
December 16	.....	749,883	758,881
December 9	.....	793,554	823,311

In Canada.—Carloadings for the week ended January 6 totaled 49,883, as compared with 44,770 for the preceding week and 62,411 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics. The absence of a holiday in the week last year affects the latter comparison.

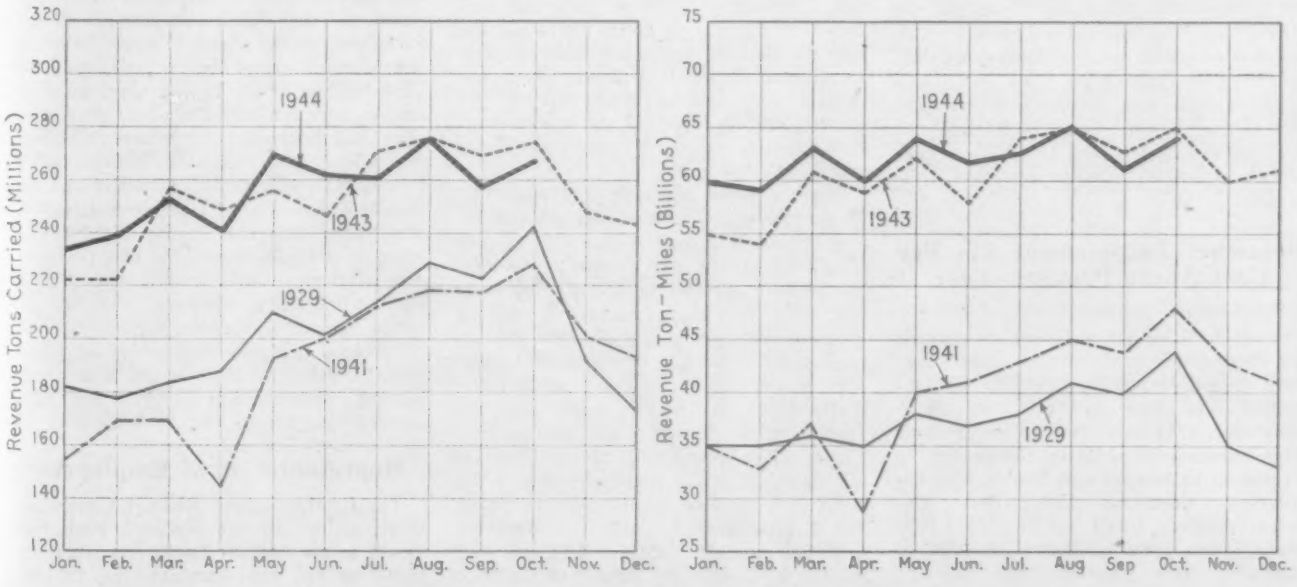
Total for Canada	Total Cars Loaded	Total Cars Rec'd from Connections
Jan. 6, 1945	49,883	27,986
Dec. 30, 1944	44,770	30,390
Jan. 8, 1944	62,724	34,834
Cumulative Totals for Canada		
Jan. 6, 1945	49,883	27,986
Jan. 8, 1944	62,411	35,004

Supreme Court Passes Second Time on A. C. L. Liability Case

Passing for the second time upon a case involving a suit for damages in connection with the death of an Atlantic Coast Line policeman, the United States Supreme Court this week ruled again for the plaintiff. The opinion by Justice Black was in Hattie Mae Tiller, executor of the estate of John Lewis Tiller, vs. Atlantic Coast Line, Mr. Tiller having been killed by a car moving on a track adjacent to that where he was at work.

As noted in the *Railway Age* of February 13, 1943, page 370, Justice Black also wrote the previous Supreme Court decision, which interpreted the 1939 amendment to the Federal Employers' Liability Act as having obliterated "every vestige of the doctrine of assumption of risk" by an injured employee. That time the case came to the Supreme Court on appeal from a Circuit Court of Appeals ruling affirming the district court's action in granting defendant's motion for a directed verdict. The Supreme Court sent it back to the district court with a finding that "the question of negligence on the part of the railroad and on the part of the employee should have been submitted to the jury."

The case reached the Supreme Court the second time on appeal from a Circuit Court of Appeals ruling that the district court erred in permitting the plaintiff to amend the complaint and submit to the jury a new item of evidence alleging violation of rules and regulations prescribed by the Interstate



Revenue Tons and Revenue Ton-Miles—1944 Compared with 1929, 1941 and 1943

Commerce Commission pursuant to the provisions of the Federal Boiler Inspection Act.

The car which struck Mr. Tiller was one of a string of cars being pushed by a locomotive operating in reverse, and the amended complaint charged that there was a violation of the rule which requires that a locomotive operated in yard service at night shall have front and rear lights. The jury in the district court rendered a verdict for the plaintiff, but it did not specify the grounds. Thus the Circuit Court of Appeals found it necessary to determine "whether there was sufficient evidence to justify the submission of this new theory to the jury over defendant's objection."

It decided that there was not, reasoning that a light on the rear of the locomotive would have been obscured by the cars which were being pushed (as the locomotive was being operated in reverse); and thus the failure to furnish such a light was not proximately related to the death of Mr. Tiller. Justice Black's opinion, however, suggested that the ray's of a strong headlight, even though obscured, might easily have spread themselves so that one standing within three car-lengths of the approaching locomotive would have been given warning of its approach. In any event, he found that submission of the evidence to the jury was proper. Also rejected was the contention that the statute of limitations had run against the amendment to the complaint.

Thus the Supreme Court found no error in the district court's disposition of the case in the retrial. It affirmed that court's judgment, thereby reversing the Circuit Court of Appeals. The dissents of Chief Justice Stone and Justice Roberts were noted.

Emergency Board on M-K-T

Chairman H. H. Schwartz of the National Railway Labor Panel has appointed an emergency board to investigate disputes regarding wages and working rules which have arisen between the Missouri-Kansas-Texas and its employees represented by the Brotherhood of Railway Clerks and the Brotherhood of Railroad Signalmen. The board is scheduled to open hearings at Dallas, Tex., on January 24.

Its members are: James H. Wolfe, justice of the Supreme Court of Utah; John A. Lapp of Chicago; and Dr. A. G. Crane, former president of Wyoming State University.

December Employment 3.74 Per Cent Above Previous Year

Railroad employment decreased 0.65 per cent—from 1,409,231 to 1,400,129—during the one-month period from mid-November, 1944, to mid-December, 1944, but the December total was 3.74 per cent above December, 1943, according to the preliminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index number, based on the 1935-1939 average, was 139.4 for December, 1944, as compared with 136.9 for the previous month, and 134.3 for December, 1943.

December, 1944, employment in all groups was above that of the corresponding 1943 month, the range of increases being from 0.41 per cent for train and engine service to 8.72 per cent for maintenance of way and structures. The 0.65 per cent decline under the previous month was the net result of drops in three groups and increases in four. All these changes were less than one per cent except the 3.38 per cent decline in the maintenance of way and structures group.

Two Parts of a Freight Collide in the Night

An accident on the New York Central near Corfu, N. Y., at 8:45 p. m. on November 15, 1944—in which two parts of one freight train, moving independently, collided and fouled a freight train on an adjacent track, wrecking it also—was caused (according to a report of an investigation conducted by the Interstate Commerce Commission under the supervision of Commissioner Patterson), by failure to provide "adequate protection" for the movement of the two portions of the parted train.

Corfu is about 15 miles east of Depew on a section of four-track main line between Buffalo and Syracuse. From south to north, the tracks are designated as No. 2, eastward passenger; No. 1, westward passenger; No. 3, westward freight, and No. 4, eastward freight. The line is tangent for several miles in both directions from the point of the accident. Trains moving with the current of traffic are operated by signal indication and an automatic train-stop system, and there is an interlocking installation at Corfu, the westward home signals of which were 825 ft. east of the tower at that point.

Almost two hours before the collision occurred, Extra 5284 East, consisting of two engines, 103 cars and 2 cabooses, was flagged to a stop on track No. 2, with the rear end about 2 miles east of the Corfu interlocking tower. After an inspection disclosed that the coupler at the west end of car 59 was broken, the dispatcher informed the conductor that light engine 8511 would move eastward to Corfu on track No. 3, thence eastward on track No. 2 to couple to the rear of Extra 5284. He also asserted that he instructed the conductor to see that Extra 1601 West, which was moving westward on track No. 3, was flagged and held east of the Corfu interlocking until engine 8511 had cleared that track at Corfu.

The conductor, however, understood that Extra 1601 was to be held east of the interlocking not only until engine 8511 cleared Track No. 3, but until further movements of the two portions of Extra 5284 were completed. These movements, as outlined by the dispatcher, were for engine 8511 to move the rear portion of Extra 5284 westward to Corfu and onto Track No. 4, while Extra 5284's own engines would move the front portion of that train westward to Corfu, where the disabled car would be set out on an auxiliary track, the rest of the front portion being moved over to Track No. 4. The conductor instructed the front brakeman of Extra 5284 to hold Extra 1601 on Track No. 3 in the vicinity of the front end of his own train, and to permit it to proceed with that portion of Extra 5284, but not to pass it, as it moved westward.

Carrying out the movement of the two parts of Extra 5284, the conductor took a position on the west end of the rear portion, and the swing brakeman and flagman took positions at the west end of the front portion. No protection was arranged for the east end of the rear portion. The front brakeman was near the east end of the front portion, where he was relaying signals from the west end thereof to the engines. The rear portion was moved westward toward Corfu, but because conflicting movements through the interlocking prevented its movement to Track No. 4 it was stopped about 8:20 p. m. on Track No. 2 with the east end about 2,450 ft. east of the westward home signals of the interlocking.

The front portion of this train started a back-up movement about 20 min. after the rear portion had departed. While it was moving westward about 10 m.p.h. it struck the east end of the standing rear portion of the train about 25 min. after that portion had stopped at the interlocking. As no light was displayed on the east end of the rear portion, and no warning was given the front portion as to the position of the rear portion, the flagman did not discover its presence until the front portion was close upon it. Stop signals were then given, and the brake valve was immediately moved to emergency position, but the two portions of Extra 5284 collided before the brakes became applied. One car at the east end of the rear portion, and four cars at the west end of the front portion, were derailed, with one car obstructing Track Nos. 1 and 3.

The front brakeman of Extra 5284 had stopped westbound Extra 1601 on Track No. 3 and delivered the conductor's instructions, but the crew of this train subsequently communicated with the dispatcher, who told them to proceed (in view of his understanding that Extra 1601 was to be held only until engine 8511 cleared Track No. 3). This instruction was regarded as superseding the instructions given by Extra 5284's brakeman, so Extra 1601 proceeded. The maximum authorized speed for freight trains on Track No. 3 was 45 m.p.h. Extra 1601 was moving about 15 m.p.h. when it struck wreckage of the portions of Extra 5284 fouling Track No. 3, almost immediately after the collision of the two portions had occurred, and before protection could have been provided. Extra 1601's four-unit Diesel-electric locomotive and the first two cars were derailed and damaged. The swing brakeman of Extra 5284 was killed in the collision of its two portions, and its flagman was injured when Extra 1601 struck the wreckage.

The commission's report pointed out that, "if protection as required by the rules had been furnished for the east end of the rear portion, this accident would have been averted."

Representation of Employees

The Brotherhood of Railway Clerks has been certified by the National Mediation Board as the Railway Labor Act representative of red caps employed by the St. Joseph Union Depot Company.

Rule to Show Cause Follows Accidents

(*Continued from page 202*)

Meanwhile, westbound passenger Extra 122 had passed View at 9:26 p. m. As it approached the scene of the collision on track No. 4, flag signals were not observed in time to bring it to a stop, with the result that about 9:36 p. m., it struck the derailed cars of the westbound freight while it was moving about 30 m. p. h. The passenger train, which consisted of 9 tourist sleeping cars and one kitchen car, was not derailed, but was broken apart at six locations. All the cars were considerably damaged where their left sides came in contact with the derailed freight cars.

No Order to Train—Discussing these circumstances, the commission report observed that the rules in effect provided for movements against the current of traffic under a single-order system of train orders, the holding order (applying to eastward movements on track No. 2) being addressed only to the operator at Port, who was not required to display a train order signal, but only to block the eastward home signal lever in the stop position. If the double-order system had been in use, it was pointed out, the order received at View by the westbound freight would have been addressed to eastbound trains at Port, and the operator there would have been required to display a train order signal against eastbound trains on track No. 2. Then the safety of the movement of the westbound freight, the report said, "would not have depended entirely upon the memory of the operator at Port."

While the operator was required by rule to display a stop signal against the eastbound train in this case, "it was permissible for the operator to remove the blocking device from a controlling signal lever to display a signal at other than stop position to permit movements to tracks other than the track to which the holding order applied." It was intended in the case investigated to have the eastbound freight proceed from track No. 2 to track No. 1 at Port, as soon as the latter track was cleared by a passenger train, and to arrange for this movement, the report added, the operator would have had to remove the device blocking the signal lever.

Under the rules, said the commission, the protection provided for movements against the current of traffic "not only was not equivalent to the protection provided for movements in the normal direction of traffic but in this case it was nullified." The accident would not have occurred if the track had been signaled for movement in both directions or if a train order signal had been displayed at Port for the eastbound freight, it added.

The situation in this accident was similar to that prevailing in one on the same road at Seward, Pa., on February 17, 1942, it was pointed out, and the commission's report covering that accident included a recommendation that "suitable" protection be provided for movement against the current of traffic. "The carrier has had about 2½ years since the commission released the report covering the Seward accident in which to make necessary changes to conform with the recommendation in that report," it said. "If such changes had been made, the present accident would not have occurred."

Megee Warns Atlantic Shippers of "Critical" Period Ahead

The next three months promise to be "critical," C. R. Megee, manager, Open Car Section, Car Service Division, A. A. R., told the Atlantic States Shippers Advisory Board which met in Philadelphia on January 11. Mr. Megee had in mind, he said, the "serious man-power situation," as a result of which many switch engines still are failing to work daily, the fact that the rolling stock now in service is one year older, and that winter, with its subnormal temperatures and heavy snows already is slowing up operation.

He is not a pessimist, he said, but rather prefers to be "cautiously optimistic." He praised highly the "intensive pulling together" by shippers, receivers, governmental agencies and railroad personnel in the past year, despite deficiencies for box cars, an all-time low in the surplus of open top cars and an "extreme tightness" in flat cars, with some instances of deferred shipments—these in a year when railroad transportation requirements had been greater than at any previous time. While referring to the 36,000 new cars installed during the past year, Mr. Megee reminded the group that there were also 23,500 retirements. The 12,500 increase was practically all in coal cars, he said.

Retiring President C. H. Vayo told the board members that it is just "pure unadulterated bunk" that cars cannot be loaded and unloaded promptly. It is time for those shippers and receivers and railroads to whom this might apply to "get a hold of their boot straps, take another notch in their belts and get in step," Mr. Vayo stated. This was in no way meant as a reproach to the majority of shippers, the speaker pointed out, observing that shipper-receiver co-operation, coupled with good railroad management, has resulted in "a job well done." What he did have in mind are the few who continue in violation of the rules of car efficiency. "Only the other day," he recalled, "I received a long distance telephone call from the chairman of one of our car efficiency committees. He told me of a shipper who was loading cars two weeks in advance of billing and the railroad involved knew the facts and did nothing about it."

C. J. Goodyear, president of the National Association of Shippers Advisory Boards, and traffic manager of the Reading Coal & Iron Co., said there were two points he wished to make clear. This country still "is committed to two full-fledged major wars" and any ideas of reconversion or easing off should at once be abandoned. His second idea is that the association should not delay in doing something about the Boren bill repealing land grant rate reductions on government traffic now before Congress. He asked all members to write their Congressmen and "push this thing through," basing his appeal on the "amount of delay that we witnessed in the last Congress on this project for repeal of land grant rates."

Supply Trade

Ralph R. Gunderson has been appointed sales manager of the brake division of the **Aireon Manufacturing Corporation** with headquarters in Chicago.

Cloyd W. Richards has been appointed assistant service manager and **Sam E. Beebe,** manager of service engineers, for **R. G. LeTourneau, Inc.,** Peoria, Ill.

The **Pacific Car & Foundry Co.** has purchased the controlling interest in the **Kenworth Motor Truck Corporation** of Seattle, Wash.

E. H. Leisch, formerly Eastern sales manager of the **Chicago Railway Equipment Company,** has been appointed manager of transportation sales of the **Engis Equipment Company,** Chicago.

Lowell E. Sennet has been appointed manager of the Chicago office of the **Ludlow Valve Manufacturing Company** to succeed **John L. Sybrandt,** who has retired.

Remington Rand, Inc., has established a transportation records department in its systems division, with headquarters in New York, under the supervision of **S. C. Skeels,** formerly head administrative officer of the Office of Defense Transportation.

K. M. Hamilton, formerly of the Forging and Casting section of the War Production Board, has been appointed Chicago district representative of the **Ordnance Steel Foundry Company,** Bettendorf, Iowa, successor to the Bettendorf Steel Foundry.

G. R. Betts has been transferred from Minneapolis, Minn., to the Chicago office of the **Armco Railroad Sales Company.** In addition to his new duties, he will continue to represent the company on the northwest accounts formerly covered from Minneapolis. Mr. Betts was graduated from the Carnegie Institute of Technology and has spent his entire business career with Armco and various subsidiary companies.

John R. Munn, chairman of Munn & Steele, Inc., has been elected president of the **Elastic Stop Nut Corporation** to succeed W. T. Hedlund, who died November 29. Mr. Munn, who was a director of Elastic Stop Nut, will serve for the unexpired term of his predecessor and until his successor is elected.

Arthur Tuckerman has been appointed assistant in the field of public relations, to Charles J. Hardy, Jr., vice-president of the **American Car & Foundry Co.** Mr. Tuckerman recently was released by the Navy Department where he had served in the third naval district as a liaison officer overseas.

James A. Greer has been elected vice-president of the **Rail Joint Company.** Mr. Greer joined the company in 1903 and, after serving in various capacities, was

transferred to San Francisco, Calif., in 1915. He has been in charge of the San Francisco office since that time and will continue to make his headquarters there as heretofore.

LeRoy A. Petersen, executive vice-president, has been elected president of the **Otis Elevator Company** to succeed Jesse H. Van Alstyne, who died December 25. Mr. Peterson has been associated with the Otis Elevator Company since 1921, serving in various sales and executive posts, including vice-president in charge of industrial sales. He was elected executive vice-president in April, 1943.

F. H. Craton has been appointed assistant manager of the **General Electric Company's** transportation division. For the present he also will continue as manager of the industrial haulage division. Mr. Craton was graduated from Syracuse Uni-

F. H. Craton

versity and joined the General Electric Company's factory management course in Schenectady, N. Y., in 1924. He entered the railway equipment engineering division at the Erie, Pa., works in 1926 and was transferred to the transportation engineering division in 1930. He was appointed manager of the industrial haulage division in August, 1941. Mr. Craton has served in an executive capacity on the War Production Board and is now chairman of the mining and industrial locomotive section of the National Electrical Manufacturing Association.

H. F. Henriques, formerly sales manager of the north central division, has been appointed general sales manager of the **Air Reduction Company; J. J. Lincoln,** formerly sales manager of the south central division, has been appointed director of sales services and **C. M. Bloodgood,** sales manager of the Pacific Coast division, has been appointed assistant to the vice-president in charge of sales, all with headquarters at the company's New York offices. **H. P. Etter,** manager of the Los Angeles, Calif., district, has been appointed sales manager of the Pacific Coast division with headquarters in San Francisco, Calif.

Kenneth Auburn, formerly New York district sales manager for the American Locomotive Company, and **Milton LaRiviere,** executive general agent of the Atlantic Coast Line in Washington, D. C., have been appointed to the sales staff of

Kenneth Auburn

the eastern sales office of the Electro-Motive division of the **General Motors Corporation,** with headquarters in New York. Mr. Auburn will assist Paul R. Turner, eastern regional manager of the company, with northeastern region sales and Mr. LaRiviere will act in a similar capacity in the southeastern region. Mr. Auburn has been employed for the past 20 years in the sales division of the American Locomotive Company, after having served previously in the company's engineering and shop departments. Mr. LaRiviere attended Boston University, School of Business Administration, and Harvard University's Extension Institute on Trans-

Milton LaRiviere

portation. He joined the Atlantic Coast Line about 15 years ago, following a period of employment in the Boston, Mass., office of the Canadian National.

Officers of the **Baldwin Locomotive Works** have announced preparations to re-establish the company's pre-war customer relations service in South America to cope with the expected industrial and transportation expansion there when the war ends. The decision to step up customer relations facilities followed a three-months' inspection of 16 South American countries by two Baldwin executives, **C. E. Kraehn,** assistant to the vice-president, and **C. B. Spellman,** hydraulic engineer.

Arthur A. Frank, president of the **Standard Railway Equipment Company,** Chicago, has been elected chairman of the board and will continue as president of the **Standard Railway Equipment Manufacturing Company. A. A. Helwig,** vice-president of the Standard Railway Equipment Company, at Chicago, has been elected president to succeed Mr. Frank. **D. R. Arnold,** vice-president of the Standard Railway Equipment Company, at New York, has been promoted to senior vice-president with the same headquarters, and **R. G. Sonquist** and **J. E. Vaughn,** assistant vice-presidents, at New York and Chicago, respectively, have been named vice-presidents with the same headquarters.

OBITUARY

Charles E. Brown, executive vice-president and director of The Okonite Company, with headquarters at Chicago, died on Saturday, January 13.

Herbert Morean, secretary and treasurer of the Industrial & Railroad Supply Co., and sales manager of the Railroad division of the Illinois Malleable Iron Co., died in Chicago on December 19, 1944, at the age of 54. Mr. Morean entered the railroad supply field in 1910 and was with the H. C. Channon Co. for several years. He later went with the Central Railway Supply Co., and was with them for seven years. Later he was associated with the Lakewood Engineering Co., until he joined the armed forces in 1917. Upon his return, he was again associated with the Lakewood Engineering Co., until he and A. L. McNeill and John C. Kuhns formed the Industrial & Railroad Supply Co. in 1924.

Construction

CHESAPEAKE & OHIO.—This company has applied to the Interstate Commerce Commission for authority to construct an extension from Kilsyth Junction, W. Va., 5 miles easterly along Mill creek to reach a coal producing district.

CLINCHFIELD.—The Carolina, Clinchfield & Ohio, lessor, has applied to the Interstate Commerce Commission for authority to construct, for operation by this company for the lessees, the Atlantic Coast Line and Louisville & Nashville, a 14.5-mile extension from Fremont, Va., into an undeveloped coal producing area, which would touch no city or town.

LOUISVILLE & NASHVILLE.—This company has applied to the Interstate Commerce Commission for authority to extend a branch some 11 miles from its present terminus at Golva, Ky., by acquiring a 2-mile private spur of the Clover Splint Coal Co. and constructing a 9-mile extension thereof. New coal mining territory would be tapped by this line, which would not serve any incorporated point.

MISSOURI PACIFIC.—Division 4 of the Interstate Commerce Commission has au-

thorized this road to construct a 4.93-mile extension from a point near Johnston City, Ill., to reach coal mines in the vicinity of West Frankfort, but not passing through any city or town. Cost of construction is estimated at $214,000, to be met with treasury funds, and the work is expected to be completed within 4 months.

Equipment and Supplies

LOCOMOTIVES

H. K. Porter Locomotive Orders

Orders for new steam and Diesel switching locomotives placed with the H. K. Porter Company, Pittsburgh, Pa., during 1944, information of which was received too late for inclusion in the summary of the year's orders published in the annual statistical number of the *Railway Age* on January 6, included the following:

Steam Locomotives Ordered in 1944

Purchaser	No.	Type	Weight	Cylinders	Date of Order	Builder
Lehigh Navigation Coal Co.	1	0-6-0	126,000	18x24	May	Porter
	1	0-4-0	50,000	12x16	May	Porter
Bethlehem Fairfield Shipyard	1		120,000	19x24	June	Porter
Tecnica Industrial, S. A.	1	0-4-0	86,000	22x18	August	Porter
American Gas & Electric Co.	1	0-4-0	108,000	22x18	September	Porter
Lone Star Cement Corp.	1	2-6-2	100,000	15x20	October	Porter
Tata Iron & Steel Co.	1	0-4-0	44,000	11x16	November	Porter
Brazilian Portland Cement Co.	2	2-6-2	51,000	12x16	December	Porter
The American Brass Co.	1	0-4-0	115,000	25x20	December	Porter

Diesel Locomotives Ordered in 1944

Purchaser	No.	Wheel Arrangement	Type	Weight	Horsepower	Date of Order	Builder
Mexican Government	6	B-B	D.E.	88,000	190	March	West.-Porter-Cummins
Domestic Coke Co.	1	B-B	D.E.	130,000	200	April	West.-Porter-Cummins
H. C. Frick Coke Co.	1	B	D.E.	50,000	150	September	West.-Porter-Cummins
Carnegie-Illinois Steel	6	B	D.E.	120,000	200	September	West.-Porter-Cummins
Russel Fork Coal Co.	2	B-B	D.E.	70,000	150	September	West.-Porter-Cummins
Mt. Vernon Car Mfg. Co.	1	B-B	D.E.	90,000	200	September	West.-Porter-Cater.
Southwest Compressed Steel Corp.	1	B	D.M.	24,000	108	October	Porter-Buda
Morgan Engineering Co.	1	B	D.E.	70,000	200	November	West.-Porter-Cummins

D.E.—Diesel-Electric
D.M.—Diesel-Mechanical

Coal Operators and Railroads Seek Better Steam Locomotive

A research project to improve the coal-burning locomotive has been launched jointly by six coal-originating railroads and three major coal producing companies. Plans were formulated at a meeting at the Biltmore Hotel, New York, on January 12, which was attended by the presidents of the six railroads, representatives of the coal companies, Karl Compton, president of the Massachusetts Institute of Technology, and Dean A. A. Potter of Purdue University. More than $1,000,000 has been subscribed to initiate research which will be handled by Bituminous Coal Research, Inc., as a distinct project with separate personnel and administered by the following locomotive development committee: R. B. White, president, Baltimore & Ohio, chairman; W. S. Franklin, vice-president, traffic, Pennsylvania; J. B. Hill, president, Louisville & Nashville; W. J. Jenks, president, Norfolk & Western; G. Metzman, president, New York Central; C. E. Newton, president, Chesapeake & Ohio; J. D. Francis, president, Island Creek Coal Company; G. M. Humphrey, president, M. A. Hanna; G. Stauffer, president, Sinclair Coal Company; and Dr. H. J. Rose, director of research, Bituminous Coal Research, Inc.

H. N. Eavenson, president of Bituminous Coal Research, in announcing the project, said that although important recent improvements in coal-burning locomotives have been made by railroads and manufacturers and numerous other designs are known to be under active study, the existing developments will not be duplicated by this new project. The contributing companies were said to believe that the latest advances in science and engineering will permit other newer improvements to be made in the use of coal for railroad locomotive power, which may be revolutionary.

Mr. Eavenson pointed out that U. S. Bureau of Mines statistics show that 98.9 per cent of the estimated natural fuel reserves of this country are in the form of coal—enough to last for more than 3,000 years. "It is therefore evident," he said, "that the railroads should continue to rely on coal, which is abundant and cheap and which is commercially produced in 27 states. The continued growth and future stability of American railroads and the coal industry are inter-related."

The Chesapeake & Ohio is inquiring for ten 4-8-4 steam locomotives.

PASSENGER CARS

Hospital Car Orders Placed By Army and Navy

The Navy has ordered 50 hospital cars from the American Car & Foundry Co. and the Army has ordered 100 hospital cars—50 from the American Car & Foundry Co. and 50 from the Pullman-Standard Car Manufacturing Company. The hospital cars for the Navy will be started at the a.c.f. St. Charles, Mo., plant upon completion of the present order there for 100 hospital cars for the Army, which is expected to be sometime in early spring. Building of the 50 additional hospital cars for the Army, which will follow the Navy's cars, will be divided equally between the a.c.f. Berwick, Pa., and St. Charles plants. Car building facilities of the Pullman-Standard Car Manufacturing Company at Calumet, Ill., which have been constructing patrol craft and landing ships for the Navy, will be used to build that company's 50 cars when the last patrol craft escort is launched at the end of January and the last landing ship, medium, is completed in March.

IRON AND STEEL

The Bangor & Aroostook has ordered 7,474 gross tons of rail from the Bethlehem Steel Company.

SIGNALING

The New York Central has ordered from the General Railway Signal Company a unit wire control machine for the control of two crossovers and associated signals at the coaling plant at Wayneport, N. Y. This will be a floor-mounted machine with an 18-in. by 40-in. panel equipped with 2 switch levers, 6 signal knobs, 8 track indication lights and 2 push buttons to control 4 switch machines and 10 signals over 1,000 ft. of road. The machine will be located at Tower 20, about 1 mi. from the most distant controlled location. This order also includes four Model 7 switch circuit controllers, a factory wired bungalow with 108 Type B relays of various types, 23 Type SA high signals and 3 Type SA dwarf signals.

The Houston Belt & Terminal has ordered from the General Railway Signal Company a unit wire control machine for the control of two crossings, one with the Galveston, Houston & Henderson, and one with the International-Great Northern, from Tower 116, Houston, Tex. This will be a table-top mounting machine with a 12-in. by 17-in. panel equipped with 2 switch levers, 6 signal levers, 13 track indication lights and 2 call-on switches to control 3 switch machines and 12 signals. The longest individual control is approximately 1 mi. Automatic block signals will be installed between Tower 116 and Tower 26, a distance of 4,418 ft. The order also includes 3 Type B relay racks and the required Type B relays, 2 Type SA dwarf signals, 8 Type B signals, 4 Type D signals, 4 Type ME signals, 3 Model 5C switch machines, and 1 Model 9 switch lock.

Abandonments

I. C. C. Refuses to Reconsider Employee Protection Rules

An order by the Interstate Commerce Commission denying a petition of the Chicago, Burlington & Quincy for reconsideration by the full commission of a Division 4 report and order detailing provisions for the protection of employees who may be adversely affected by the abandonment of certain lines of that carrier has the effect of supporting the division's action in that respect.

As noted in *Railway Age* of December 9, 1944, page 904, the Burlington had sought consideration by the full commission of its contention that this action of the division constituted a "fundamental and far-reaching change" in commission practice, particularly in that it substituted for the theretofore customary reservation of jurisdiction for a 2-year period provisions having the effect of guaranteeing the affected employee an income for four years equal to that he received at the time of the abandonment, together with protection of seniority and pension privileges and relief from any losses in disposing of his home because of a shift in place of employment.

By putting similar provisions into effect in several other abandonment authorizations, the division indicated that the conditions specified in the Burlington case, Finance Docket No. 14426, were being regarded as a precedent. Subsequently, moreover, it issued a report and order in F.D. 14549, authorizing the Kansas City Southern to abandon a portion of a branch, in which generally similar provisions were set forth in detail, as noted in *Railway Age* of December 23, 1944, page 977.

Another indication that the Burlington case provisions were regarded as a precedent was seen in the applications of the Railway Labor Executives Association for authority to intervene in a number of abandonment proceedings in order to petition the commission to reopen them for the purpose of imposing specific conditions such as were imposed in the Burlington case, this union action coming as several 2-year reservations of jurisdiction neared their close. The commission's denial of the Burlington's petition for reconsideration was dated January 8. Subsequently, Division 4 authorized the R. L. E. A. to intervene in two proceedings (Nos. 13938, involving the Southern Pacific and Central Pacific, and 13942, involving the Chicago, Milwaukee, St. Paul & Pacific), and extended its jurisdiction therein as to protection of employees adversely affected, pending further action.

CHICAGO, BURLINGTON & QUINCY.—The Interstate Commerce Commission has extended to September 1 the effective date of Division 4's authorization of this road's abandonment of two segments of line in Iowa, one from Humeston to Clearfield, 58 miles, and one from Merle Junction to Clarinda, 27 miles. As noted in *Railway Age* of December 23, 1944, page 977, objectors to the abandonment had asked the commission to reopen the proceedings and revoke the authorization, which was granted in February, 1944, effective one year thereafter, with the division then taking "judicial notice" of the possibility that the war in Europe might come to a reasonably early conclusion. The action extending the effective date accompanied a denial of the petition to reopen the case.

LOUISIANA & ARKANSAS.—At this road's request, Division 4 of the Interstate Commerce Commission has dismissed its application for authority to abandon its line from St. Francisville, La., to Angola, 19.62 miles. An examiner's report recommending denial of the application was submitted in 1943 (noted in *Railway Age* of December 4, 1943, page 921).

Financial

ALTON.—*Reorganization.*—A plan of reorganization for the Alton was filed in the Federal District Court at Chicago on January 16, by the protective committee for holders of Alton three per cent refunding mortgage bonds. The trustee of the road, as reported in the *Railway Age* of January 13, filed a plan with the Court on January 2. The mortgage holders' plan provides for a capitalization of $73,000,000 compared with $69,976,781 set up under the trustee's plan. It would include $45,000,000 of new bonds and 280,000 shares of no par common stock valued at $28,000,000 under the plan. All cash, materials, propery and franchises of the Alton, including property held under leaseholds from three subsidiary companies, would be converted in fee, and clear of all liens, to the reorganized company or to a new corporation. All equipment obligations of the road and the trustee would be assumed by the reorganized company.

New securities would be distributed as follows: Holders of 3 per cent refunding mortgage bonds due 1949 would receive for each $1,000 bond, together with all interest coupons maturing subsequent to October 1, 1940, $533.62 of first mortgage series A bonds, $426.89 of general mortgage series B bonds, and 5.5327 shares of new no par common stock of the reorganized company.

Holders of Joliet & Chicago Railroad company 7 per cent capital stock, $100 par, together with all accrued dividends, would receive for each share $53.36 of first mortgage series A bonds, $42.69 of general mortgage series B bonds, and .5532 share of no par value common stock.

Holders of Kansas City, St. Louis & Chicago Railroad Company 6 per cent preferred stock, $100 par, together with accrued dividends, would receive for each share one share of new no par common stock.

Holders of Louisiana & Missouri River Railroad company 7 per cent preferred stock, together with all accrued dividends, would receive 1 share of new no par common stock.

Interests or equities of all general unsecured creditors whose claims are not entitled to priority over holders of 3 per cent refunding mortgage bonds and holders of common stock would have no value and nothing would be distributed to them.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Reorganization.*—The Federal District Court at Chicago has set February 20 as the date for a hearing on confirmation of the modified plan of reorganization of the Chicago, Milwaukee, St. Paul & Pacific. The plan calls for a total capitalization of $533,090,698 compared with present capitalization of $713,517,670. Fixed charges would amount to $3,481,903.

CHICAGO & NORTH WESTERN.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission, upon this road's advice that part of the equipment covered by certain promissory notes, the issue of which the division had approved, had not been delivered, has modified its orders in that respect, making the authorization apply to $252,684 instead of $366,204 in one case (previous item in *Railway Age* of August 5, 1944, page 251) and to $1,206,750 instead of $1,266,500 in the other. (Previous item in *Railway Age* of July 1, 1944, page 62).

ERIE.—*New Director.*—Edward P. Brooks, vice-president of Sears, Roebuck & Co., Chicago, has been elected a director of the Erie to fill the unexpired term of George J. Martin, deceased.

ERIE & MICHIGAN.—*Trackage Rights.*—Division 4 of the Interstate Commerce Commission has approved a modification of the agreement under which the Erie & Michigan Railway & Navigation operates under trackage rights over the Detroit & Mackinac from Alabaster, Mich., to East Tawas, 8.36 miles, whereby the arrangement is continued in effect to 1951.

ILLINOIS CENTRAL.—*R. F. C. Sells Bonds.*—The Secretary of Commerce has announced that the Reconstruction Finance Corporation had sold to the First Boston Corporation, New York, as agents, $7,344,000 of this road's 3 per cent equipment trust certificates, series U, at 103.814 and accrued interest. This price represents a premium to R. F. C. of $80,080.

LOUISVILLE & NASHVILLE.—*Refinancing.*—Division 4 of the Interstate Commerce Commission, with Commissioner Porter dissenting, has authorized this company to issue $53,835,000 of series F 3⅛ per cent first and refunding mortgage bonds, maturing in 2003, which have been sold at 104.66 to Halsey, Stuart & Company and 144 associates, making the average annual cost to the road 3.2 per cent. The proceeds are to be used to redeem at 105 certain outstanding first and refunding mortgage bonds of the same maturity, but carrying higher interest rates, namely, $14,000,000 of series B5 per cent, $31,000,000 of series C 4½ per cent, and $8,835,000 of series D 4 per cent. A net reduction in interest charges to maturity of $35,908,965 is anticipated.

The majority of the division, Commissioners Miller and Mahaffie, expressed the opinion that the transaction merited approval, in view of the continued reduction in the applicant's outstanding debt, amounting in 1944 alone to about $14,500,000, and its use of available funds for this purpose and for provisions for future expenditures, together with the favorable cost of the new money. The dissenting opinion, while approving the substantial savings in interest accomplished by the refinancing, expressed objection to the sinking fund provisions. The road's cash position, said Commissioner Porter, would have justified some reduction in the principal of the debt being refunded, and in any event the annual sinking fund payment, in his opinion, should be one per cent, rather than 0.5 per cent, particularly since the division, in another recent decision involving a subsidiary of the Union Pacific, had imposed as a condition to its approval a like increase in sinking fund payments.

NEW YORK, NEW HAVEN & HARTFORD.—*Seeks Modification of Court Ruling.*—Trustees of the New York, New Haven &

Hartford have filed a petition in the United States circuit court of appeals for a stay of mandate and modification of its opinion in the New Haven reorganization appeal. (See previous item in *Railway Age* of January 13, page 175.)

PENNSYLVANIA.—*Pennroad Judgment.*—On January 10 the third United States circuit court of appeals granted the Pennroad Corporation a 60-day extension in which to file a motion for a rehearing of its decision reversing a $22,104,515 judgment against the Pennsylvania, originally awarded to the Pennroad on January 19, 1943, by the United States district court at Philadelphia, Pa. (Previous item in *Railway Age* of January 6, page 134.)

SOUTHERN - ATLANTIC COAST LINE.—*Trackage Agreement.*—The Southern has applied to the Interstate Commerce Commission for its approval of the terms of a contract extending to 1999 the effectiveness of a trackage agreement first made in 1902, under which this road operates over the Atlantic Coast Line from Savannah, Ga., to Jacksonville, Fla., about 152 miles. The existing agreement has not expired, but its extension to a later date is desired to facilitate planning for future operations.

WASHINGTON TERMINAL.—*Bonds.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $11,000,000 of series A first mortgage 2⅝ per cent bonds, sold at 100.81 to Dillon, Read & Co. and others. The Philadelphia, Baltimore & Washington (a subsidiary of the Pennsylvania) and the Baltimore & Ohio, joint owners of the terminal's capital stock, have been authorized to assume joint and several liability as guarantors of principal and interest. The proceeds, with other funds, will be used to retire $11,915,000 of maturing first mortgage gold bonds.

WESTERN PACIFIC.—*R. F. C. Sells Bonds.*—On January 8, the Reconstruction Finance Corporation sold to Bear, Stearns & Co., New York, acting as agent for a group of institutional investors, the Western Pacific's $10,000,000 issue of new first mortgage 4 per cent bonds, series A, due January 1, 1974, at a price of 102.835. The bonds represent the road's entire first mortgage debt and were issued to the R. F. C. at par when the company reorganized (see previous item in *Railway Age* of November 4, page 708).

Average Prices Stocks and Bonds

	Jan. 16	Last week	Last year
Average price of 20 representative railway stocks..	48.92	50.56*	37.16
Average price of 20 representative railway bonds..	94.65	94.49	83.06

* Corrected figure.

Dividends Declared

Augusta & Savannah.—$2.50, payable January 15 to holders of record January 8.

Cleveland, Cincinnati, Chicago & St. Louis.—common, $5.00, semi-annually; 5% preferred, $1.25; quarterly; both payable January 31 to holders of record January 19.

Georgia RR. & Banking.—$1.75, quarterly, payable January 15 to holders of record December 30.

Rutland & Whitehall.—$1.05, payable February 15 to holders of record February 1.

Saratoga & Schenectady.—irregular, $2.00, payable January 15, to holders of record December 30.

Wheeling & Lake Erie.—$1.00; $1.37½, both quarterly, both payable February 1 to holders of record January 25.

Railway Officers

EXECUTIVE

Douglas F. G. Eliot, general purchasing agent of the Western Electric Company, has been elected president of the Manufacturers' Junction Railway, Chicago, with headquarters as before at New York. Mr. Eliot succeeds **W. H. DeWitt,** who has retired after 39 years of service.

Bert E. White, assistant vice-president and passenger traffic manager in charge of domestic travel of the American Express Company, now on war leave with the United States Army, has been elected vice-president and general manager—travel. **Walter C. Rundle,** assistant vice-president in charge of foreign travel, who has recently been on loan to the Coordinator of Inter-American Affairs as director of the travel division, has been elected vice-president—travel.

FINANCIAL, LEGAL AND ACCOUNTING

Judge Howard W. Hughes, formerly of the Pennsylvania State Supreme Court and the Court of Common Pleas of Washington County, Pa., has been named general solicitor of the Pennsylvania.

Walter A. Sarasin, chief of the rate claim bureau of the Kansas City Southern and of the Louisiana & Arkansas, with headquarters at Kansas City, Mo., has been promoted to freight claim agent of both roads in charge of freight claim prevention matters and settlement of loss and damage claims, with headquarters at Shreveport, La., and Kansas City.

Edward W. Weast, whose retirement as freight claim agent of the Chicago & Eastern Illinois, with headquarters at Chicago, was reported in the *Railway Age* of December 23, was born at Polo, Ill., on November 19, 1880, and entered railway service with the Chicago, Burlington & Quincy in February, 1902. In September of the same year he went with the Chicago Belt, handling undercharges, demurrage and adjustment of relief claims, with headquarters at Chicago. Three years later he was advanced to freight claim investigator, with the same headquarters. In 1909 Mr. Weast went with the C. & E. I., as an investigator of loss and damage claims at Chicago, and a short time later he was promoted to chief clerk of the freight claim department. In July, 1943, he was advanced to the position he held at the time of his retirement.

OPERATING

J. F. Carder, division superintendent of the Atchison, Topeka & Santa Fe at Argentine, Kan., has, at his own request, been appointed assistant division superintendent, with headquarters at El Paso, Tex., succeeding to the duties of **L. M. Olson,** whose promotion to division superintendent at Clovis, N. M., was reported in the *Railway Age* of January 13. The position of trainmaster, formerly held at El Paso by Mr. Olson, has been abolished.

H. L. Nancarrow, general manager of the Pennsylvania's western region at Chicago, has been transferred to Philadelphia, Pa., as general manager of the eastern region succeeding **W. C. Higginbottom,** whose promotion to assistant vice-president is announced elsewhere in these columns. **P. E. Feucht,** general superintendent at Cleveland, Ohio, replaces Mr. Nancarrow as general manager at Chicago. **J. L. Cranwell,** superintendent of the Philadelphia terminal division, has been appointed general superintendent at Cleveland replacing Mr. Feucht, and **J. E. Gillum,** superintendent of the Panhandle division at Pittsburgh, Pa., succeeds Mr. Cranwell as superintendent of the Philadelphia terminal division. **P. M. Roeper,** superintendent of the Wilkes-Barre division at Sunbury, Pa., has been named superintendent of freight transportation, eastern division, with headquarters at Philadelphia, Pa.

Mr. Roeper, who was born at McKeesport, Pa., attended the University of

P. M. Roeper

Southern California and Carnegie Institute of Technology, and entered the service of the Pennsylvania in 1928 as an assistant on the engineer corps at Middletown, Pa. After holding various positions at Sunbury, Pa., Chester, Newport, Hollidaysburg and New Castle, Mr. Roeper was appointed division engineer, Panhandle division, at Pittsburgh, Pa., in January, 1942, remaining in that post until June, 1943, when he was named superintendent of the Wilkes-Barre division at Sunbury, the post he held at the time of his recent assignment as superintendent of freight transportation.

R. S. Hampshire, a member of the staff of the president of the Railway Express Agency at New York, has been promoted to general manager of the Chicago department, with headquarters at Chicago, succeeding **J. F. Glover,** who has been transferred to the Northern department, with headquarters at St. Paul, Minn., where he replaces **W. D. Llewellyn,** who has retired. **E. L. Head,** air express manager at Chicago, has been advanced to superintendent of the Western Texas division, with headquarters at San Antonio, Tex., re-

lieving **John P. Foster,** who has been promoted to western traffic manager at San Francisco, Cal., succeeding **John C. North,** who has retired. **Glen C. Lace,** district manager of public relations, Mid-Central department, with headquarters at Chicago, has been advanced to air express manager, with the same headquarters, replacing Mr. Head. **A. G. Smith,** superintendent of the Cincinnati division at Cincinnati, Ohio, has been appointed superintendent of terminal service, Chicago department, succeeding **H. H. Smith,** who has been advanced to superintendent of the Northern Ohio division, with headquarters at Cleveland, Ohio, where he relieves **J. H. Dunlap,** who in turn succeeds Mr. A. G. Smith at Chicinnati.

H. J. Dick, a conductor on the Middle division of the Atchison, Topeka & Santa Fe, with headquarters at Newton, Kan., has been promoted to general inspector of transportation, with headquarters at Topeka, Kan.

Hugh H. McLellan, stationmaster of the Canadian National, has been appointed trainmaster, Halifax Ocean Terminals, at Halifax, N. S. **Joseph A. P. Gaudet,** chief clerk to the superintendent, Moncton division, has been named trainmaster, Campbellton division, at Newcastle, N. B.

TRAFFIC

Gordon L. Cox has been appointed engineer coal development of the Virginian at Norfolk, Va., succeeding **J. C. R. Taylor,** who has retired.

J. C. Owens has been named general agent, freight department, of the New York Central at Utica, N. Y., succeeding **F. P. Sheridan,** who has resigned.

W. H. Callahan, district passenger agent of the Southern at Cincinnati, Ohio, has been promoted to division passenger agent with the same headquarters.

H. A. Gebelein, general agent of the Duluth, South Shore & Atlantic and the Mineral Range at New York, has voluntarily resigned his position.

Arthur E. Russell, traveling freight agent of the Canadian National-Grand Trunk at Buffalo, N. Y., has been appointed general agent (freight) at New York.

C. R. Dyer, commercial agent of the Kansas City Southern and of the Louisiana & Arkansas, has been promoted to general agent, with headquarters as before at Greenville, Tex.

Robert C. Duffin has been appointed general agent of the Missouri-Kansas-Texas, with headquarters at Detroit, Mich., succeeding W. L. Peebles, whose death on November 23 was reported in the *Railway Age* of December 16.

A. L. Doggett, freight traffic manager of the Baltimore & Ohio, with headquarters at Chicago, has been placed in charge of the northwestern region, with the same title and headquarters. **J. C. Kimes,** assistant freight traffic manager at Chicago, has been given supervision of all on-line and off-line offices in the northwestern region, except at Toledo, Ohio, and Springfield, Ill. The position of western freight manager, which was held by John H. Carroll, Jr., whose death on November 23 was reported in the *Railway Age* of December 2, has been abolished.

R. A. Barnett, general agent of the Peoria & Eastern (part of the New York Central System) has been advanced to division freight agent, with headquarters as before at Peoria, Ill., succeeding **D. H. Hutchinson,** who has retired.

Michael J. McGill, whose appointment as general freight agent of the Boston & Maine and Maine Central at Boston, Mass., was announced in the *Railway Age* of January 6, was born at Marblehead, Mass., on December 11, 1885, and entered railroad service in the local freight office of the Boston & Maine at Beverly, Mass., in November, 1904. He transferred to the freight accounting department in June, 1910, leaving there in August, 1912, to join the freight accounting department of the Boston & Albany. In June, 1926, he reentered Boston & Maine service in the

Michael J. McGill

freight traffic department; and he was promoted to chief of the division bureau on August 1, 1930. In July, 1938, Mr. McGill was named assistant general freight agent, the position he held at the time of his recent appointment as general freight agent.

ENGINEERING & SIGNALING

Robert W. Ross, whose promotion to maintenance of way engineer, western region, of the Canadian National, with headquarters at Winnipeg, Man., was reported in the *Railway Age* of December 23, was born at Walton, Ont., on May 12, 1885, and entered railway service in August, 1904, as a rodman of the Grand Trunk Pacific (part of the Canadian National) at Winnipeg. He subsequently served as instrumentman, transitman, resident engineer on construction and resident engineer of maintenance at Winnipeg and at Melville, Sask., until 1918 when he was appointed assistant engineer of the Canadian National, with headquarters at Edmonton, Alta. A short time later Mr. Ross was promoted to division engineer at Edmonton, and in 1944 he was advanced to district engineer, with headquarters at Winnipeg, holding that position until his new appointment.

MECHANICAL

William H. C. Chapman, assistant electrical engineer of the Chicago & North Western at Chicago, has been advanced to

William H. C. Chapman

electrical engineer, with the same headquarters, succeeding **J. A. Andreucetti,** whose promotion to chief electrical engineer is reported elsewhere in these columns.

Mr. Chapman was born at Leyland, England, on August 26, 1886, and received his higher education at the Salford Royal Technical School, Salford, England. He held a number of positions in England after graduating, and in 1910 came to the United States and accepted a position with the Commonwealth Edison Company, Chicago, later going with the Chicago Bell Telephone Company. Mr. Chapman entered railway service in 1911 as an electrician of the North Western at Chicago, and three years later he was promoted to chief electrician, with headquarters at Clinton, Iowa. In 1916 he was advanced to electrical inspector, with headquarters at Chicago, and in 1927 he was promoted to the position he held at the time of his new appointment.

George H. Pollard has been appointed mechanical engineer of the Missouri Pacific, with headquarters at Palestine, Tex., succeeding **R. F. Abell,** who has resigned.

K. A. Lentz, master mechanic of the Southern at Somerset, Ky., has been transferred to Birmingham, Ala., succeeding **F. T. Walden,** who has been granted a leave of absence because of illness. **S. H. Dubose,** master mechanic at Ludlow, Ky., has been transferred to Somerset replacing Mr. Lentz; and **P. C. Branch,** general foreman at Birmingham, has been promoted to master mechanic at Ludlow succeeding Mr. DuBose.

J. A. Andreucetti, electrical engineer of the Chicago & North Western, at Chicago, has been promoted to chief electrical engineer, with the same headquarters. Mr. Andreucetti was born at Chicago on May 1, 1881, and entered railway service in 1901 in the operating department of the Illinois Central. In 1905 he went with the North Western as an electrical helper at Chicago, subsequently serving as electrician, acting

foreman on electrical construction, foreman on electrical construction and general foreman, with the same headquarters. In September, 1916, Mr. Andreucetti was promot-

J. A. Andreucetti

ed to assistant elecrical engineer, and in May, 1927, to the position he held at the time of his new appointment. Mr. Andreucetti is a past president of the Railway Electrical Pioneers Club, former secretary-treasurer of the Association of Railway Electrical Engineers, and former secretary of the Electrical section, Mechanical division, A. A. R.

PURCHASES AND STORES

William Harry Ruskaup, Jr., whose appointment as assistant general purchasing agent of the New York Central System at New York was announced in the *Railway Age* of December 9, was born at Indianapolis, Ind., on July 19, 1910, and received his B.S.M.E. from Purdue University in 1932. He entered railroad service with the New York Central as a special apprentice in March, 1934, and became a service test inspector in August, 1937. In November, 1939, he was named special inspector, becoming gang foreman (locomotive round house) at Indianapolis in February, 1942. He served as assistant purchasing agent at New York from September to December, 1944, when he was named assistant general purchasing agent.

Ralph I. Renfrew, whose appointment as assistant general purchasing agent of the New York Central System at New York was announced in the *Railway Age* of December 9, was born at Remington, Ind., on June 9, 1895, and entered railroading with the New York Central as a clerk at Beech Grove, Ind., on April 15, 1914. After serving in the United States Army from 1918 to 1919 he returned to Beech Grove as chief clerk to the general storekeeper, and was promoted to division storekeeper at Mattoon, Ill., one year later. In January, 1921, he was named division storekeeper of the Ohio Central Lines at Bucyrus, Ohio, becoming district storekeeper there in July, 1930. He returned to Beech Grove as district storekeeper of the Cleveland, Cincinnati, Chicago & St. Louis (part of the New York Central, in May, 1931, and was appointed assistant general storekeeper there in July, 1941. Mr. Renfrew was named assistant general supervisor of stores for the New York Central System at New York on March 1, 1943, and was promoted to general supervisor of stores, in September, 1944, three months before his advancement to assistant general purchasing agent.

Frank Stearns Austin, whose appointment as general purchasing agent of the New York Central System with headquarters at New York was announced in the *Railway Age* of December 9, was born at Lynn, Mass., on November 6, 1886, and attended Dartmouth College and Thayer School of Civil Engineering, receiving his B.S. degree in 1909. He entered railroading the same year as a chainman on the Boston & Albany (operated by the New York Central), and after serving as rodman and transitman at Boston, Mass., and assistant supervisor of track at Pittsfield, Mass., he was advanced to supervisor of track at Worcester, Mass., in October, 1913. He returned to Boston in the same capacity in July, 1916, and was appointed general storekeeper at Springfield, Mass., the following year. In July, 1927, Mr. Austin was named purchasing agent at Boston, where he remained until his appointment as assistant purchasing agent of the New York Central at New York in March, 1935. He was promoted to purchasing agent there on August 1, 1940, holding that post until his recent appointment as general purchasing agent.

Frank S. Austin

William J. Warnock, whose appointment as assistant general purchasing agent of the New York Central System at New York, was announced in the *Railway Age* of December 9, was born at Tuckahoe, N. Y., on August 13, 1884, and entered railroad service as a messenger of the New York Central at Mott Haven, N. Y., in 1898. He was named a clerk at the Grand Central station, New York, in 1901, returning to Mott Haven in 1903 as storekeeper. In 1908, Mr. Warnock became a bill clerk in the office of the purchasing agent at New York, and after serving as price clerk and requisition clerk, he was appointed old material clerk in the purchasing department in 1913. He served briefly as head requisition clerk to the purchasing agent in 1917, becoming chief clerk the same year. In 1920 Mr. Warnock was named scrap sales agent; and he remained in that post until 1931, when he was advanced to assistant purchasing agent, the position he held at the time of his recent promotion to assistant general purchasing agent.

Elmer Otis Hornig, whose appointment as assistant general purchasing agent of the New York Central System with headquarters at New York was announced in the *Railway Age* of December 9, was born at Amherst, Ohio, on September 15, 1882, and entered the service of the New York Central in February, 1903, as a stenographer in the purchasing department at Cleveland, Ohio. He was named voucher clerk one year later, and became secretary to the general purchasing agent at New York on January 1, 1907. After leaving the road in July, 1918, he returned in April, 1920, as assistant to the manager, purchases and stores, at New York. He was advanced to assistant to the vice-president, purchases and stores, on February 1, 1930, and remained in that post until September, 1940, when he was named assistant purchasing agent, the position he held at the time of his recent appointment as assistant general purchasing agent.

OBITUARY

Arthur Van Meter, assistant general solicitor of the Pennsylvania, with headquarters at Chicago, died in the Evanston (Ill.) hospital on January 16.

James M. Kurn, who resigned on January 1 as co-trustee of the St. Louis-San Francisco, died at St. Louis, Mo., on January 13. A biographical sketch and a photograph of Mr. Kurn appeared on page 145 of the *Railway Age* of January 13, in connection with the announcement of his resignation.

Nelson L. Satchell, purchasing agent of the New York, Susquehanna & Western at Paterson, N. J., died on January 13. He was 67 years old. Mr. Satchell entered railroad service in 1901 with the New York, Ontario & Western. He served as joint storekeeper of that road and the New York, Susquehanna & Western from 1940 to 1942, when he was appointed purchasing agent of the latter road, the position he held at the time of his death.

Walter C. Hannenberg, whose promotion to assistant comptroller of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, was reported in the *Railway Age* of January 13, died in a Chicago hospital on January 13. Born at Chicago on September 14, 1894, Mr. Hannenberg received his higher education at the Lewis Institute. He entered railway service on March 1, 1919, with the Illinois Central, and on April 1, 1920, he went with the Milwaukee as an engineer accountant. Two years later he was advanced to traveling engineer accountant, with the same headquarters, and in November, 1927, he was further advanced to assistant auditor of investment accounts. During 1932 and 1933 Mr. Hannenberg served as special accountant, and in October of the latter year he was promoted to general accountant at Chicago. In December, 1942, Mr. Hannenberg was advanced to auditor of investment and joint facility accounts, the position he held at the time of his new appointment.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1944

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1944	1943
Akron, Canton & Youngstown	Nov.	171	$335,461	$147	$350,476	$74,995	$34,073	$18,549	$112,813	$259,627	74.1	$90,849	$39,569	$22,076	$78,994
	11 mos.	171	4,088,047	1,808	4,266,594	787,009	392,068	201,900	1,242,466	2,824,941	66.2	1,441,653	865,049	681,763	931,821
Alton	Nov.	959	2,118,077	727,404	3,187,519	423,704	423,688	70,308	1,117,819	2,161,481	67.8	1,026,038	640,763	445,036	212,635
	11 mos.	959	22,629,982	8,653,667	34,882,871	4,836,821	4,910,921	766,935	11,238,738	23,198,371	66.5	11,684,500	6,419,287	3,961,546	3,521,649
Atchison, Topeka & Santa Fe System	Nov.	13,092	35,412,227	9,257,980	47,904,121	5,374,606	7,011,279	628,538	13,885,225	27,592,221	57.6	20,311,900	8,738,962	7,668,188	7,257,206
	11 mos.	13,104	348,194,694	103,598,260	485,034,152	58,264,348	74,368,321	6,821,726	128,667,395	275,359,012	56.8	209,675,140	59,457,549	54,374,977	59,410,076
Atlanta & West Point	Nov.	93	275,995	137,403	459,114	41,486	61,195	10,091	175,982	307,648	67.0	151,466	63,460	32,579	36,426
	11 mos.	93	3,038,044	1,724,197	5,230,789	546,539	630,484	108,478	1,792,447	3,290,317	62.9	1,940,472	678,899	368,225	438,637
Western of Alabama	Nov.	133	268,561	138,134	442,047	89,814	64,995	10,519	141,428	323,718	73.2	118,329	40,060	33,972	51,242
	11 mos.	133	2,992,550	1,754,558	5,128,806	612,015	690,462	112,099	1,664,503	3,269,208	63.7	1,859,598	571,871	488,895	613,125
Atlanta, Birmingham & Coast	Nov.	639	578,243	45,377	658,249	111,585	104,787	28,978	290,284	555,885	84.5	102,364	70,077	31,738	—33,529
	11 mos.	639	6,271,344	559,390	7,175,363	1,225,777	1,123,118	310,454	2,755,303	5,659,322	78.9	1,516,041	730,647	349,759	509,855
Atlantic Coast Line	Nov.	4,961	8,589,237	3,294,343	12,962,390	1,127,280	2,110,604	186,802	4,117,956	7,946,045	61.3	5,016,345	1,266,345	933,279	909,344
	11 mos.	4,962	92,293,670	41,172,003	142,655,850	13,471,443	22,459,731	1,996,396	42,268,178	84,611,606	59.3	58,044,244	16,044,244	11,984,783	14,164,029
Charleston & Western Carolina	Nov.	343	339,907	8,132	355,827	49,703	62,980	10,238	121,935	251,574	70.7	104,253	44,253	46,281	79,545
	11 mos.	343	3,987,374	131,652	4,211,391	575,606	659,529	111,980	1,315,103	2,736,276	65.0	1,475,115	690,115	684,833	716,916
Baltimore & Ohio	Nov.	6,128	25,783,287	4,002,568	31,424,417	4,515,019	6,540,292	530,617	11,089,892	23,832,921	75.8	7,591,496	3,279,865	2,339,215	2,216,475
	11 mos.	6,143	291,770,564	46,952,459	357,390,834	52,077,479	71,442,529	5,524,862	118,570,100	259,563,238	72.6	97,827,596	49,314,426	40,430,791	58,406,002
Staten Island Rapid Transit	Nov.	24	256,804	112,670	378,733	102,159	38,709	1,265	118,224	288,509	76.2	90,224	39,592	20,356	8,666
	11 mos.	24	3,462,672	1,287,384	4,853,393	831,093	434,109	13,901	1,293,814	2,871,190	59.2	1,982,203	1,209,010	988,573	1,062,391
Bangor & Aroostook	Nov.	602	869,669	72,168	974,897	116,946	126,782	6,174	217,698	500,342	51.3	474,555	140,061	144,542	134,675
	11 mos.	602	7,642,020	863,639	8,957,970	1,430,828	1,337,224	68,839	2,221,888	5,423,369	60.5	3,534,601	1,094,790	1,324,021	1,558,432
Bessemer & Lake Erie	Nov.	214	1,499,424	2,109	1,513,087	139,011	735,235	13,475	327,088	1,194,573	78.9	318,514	128,303	296,345	289,638
	11 mos.	214	18,616,245	20,494	18,790,030	1,604,455	8,070,692	150,556	3,776,974	14,057,450	74.8	4,732,580	2,158,741	4,081,953	2,382,108
Boston & Maine	Nov.	1,808	4,902,170	1,593,546	7,092,794	1,223,081	1,324,374	77,176	2,593,230	5,465,246	77.1	1,627,548	935,246	694,569	622,981
	11 mos.	1,818	55,435,419	17,923,437	80,371,434	12,815,913	13,694,255	865,856	29,162,708	59,196,981	73.7	21,174,453	12,237,594	9,243,560	11,134,828
Burlington, Rock Island	Nov.	228	182,228	51,594	250,877	35,208	29,404	3,135	91,762	172,780	68.9	78,097	67,451	28,212	42,321
	11 mos.	228	1,939,192	676,831	2,784,842	326,294	286,907	34,827	935,670	1,746,984	62.7	1,037,858	929,505	547,205	560,952
Cambria & Indiana	Nov.	35	142,238	.....	142,299	10,896	50,432	536	17,741	85,995	60.43	56,304	—18,902	57,851	61,596
	11 mos.	35	1,675,646	.....	1,676,437	142,133	553,158	6,326	207,731	986,569	58.85	689,868	—259,741	601,464	538,708
Canadian Pacific Lines in Maine	Nov.	234	433,045	80,573	537,529	57,920	51,086	8,792	172,684	291,816	54.3	245,713	222,892	71,576	129,639
	11 mos.	234	4,351,244	884,626	5,554,267	763,703	782,327	72,365	1,761,722	3,503,115	63.1	2,051,152	1,806,452	1,095,432	2,034,156
Canadian Pacific Lines in Vermont	Nov.	90	82,833	30,934	126,092	43,074	17,272	3,181	90,590	155,382	123.2	—29,290	—38,438	—76,339	—100,554
	11 mos.	90	937,693	311,042	1,392,597	431,163	332,029	26,359	1,039,691	1,890,195	135.1	—497,598	—600,224	—958,075	—901,825
Central of Georgia	Nov.	1,815	2,106,693	699,516	3,082,180	411,486	569,848	72,289	1,214,419	2,406,821	78.1	675,359	454,002	420,091	72,465
	11 mos.	1,815	24,629,213	7,997,940	35,776,515	4,675,630	5,682,973	778,809	12,993,967	25,677,148	71.8	10,099,367	6,568,795	5,899,645	7,480,801
Central of New Jersey	Nov.	654	3,988,906	568,738	4,900,299	569,145	870,914	57,340	1,937,728	3,611,040	73.7	1,289,259	765,828	578,658	362,472
	11 mos.	655	45,697,133	6,910,586	56,032,509	6,238,242	9,969,799	597,657	22,909,732	41,536,628	74.1	14,495,881	8,511,725	5,252,800	5,664,366
Central Vermont	Nov.	422	631,251	81,000	771,091	23,936	127,023	10,034	308,352	495,772	64.3	275,319	227,246	179,936	174,744
	11 mos.	422	6,616,685	918,000	8,142,511	1,149,676	1,220,503	115,931	3,505,549	6,280,547	77.1	1,861,964	1,347,389	832,126	1,342,915
Chesapeake & Ohio	Nov.	3,076	15,044,200	1,675,143	17,488,457	2,111,644	3,525,058	330,481	4,938,980	11,438,159	65.4	6,050,298	2,314,313	2,660,482	2,875,912
	11 mos.	3,073	171,994,249	21,578,965	201,127,035	24,147,492	38,989,855	2,731,748	52,647,294	124,615,100	62.0	76,511,935	26,874,481	30,723,024	34,270,219
Chicago & Eastern Illinois	Nov.	912	1,959,923	600,434	2,789,189	332,774	410,452	68,012	1,003,373	1,920,752	68.9	868,437	399,437	131,889	208,324
	11 mos.	912	21,983,651	6,951,115	31,544,413	3,936,662	4,889,558	719,791	11,092,837	21,838,380	69.2	9,706,033	5,458,364	2,702,335	3,521,563
Chicago & Illinois Midland	Nov.	131	533,019	1,403	563,581	38,602	88,782	22,628	144,337	322,225	57.2	241,356	74,210	78,388	84,655
	11 mos.	131	6,102,180	16,732	6,449,582	783,553	974,338	243,815	1,577,120	3,879,557	60.2	2,570,025	861,789	892,382	914,174
Chicago & North Western	Nov.	8,072	9,759,910	3,082,945	14,321,852	1,782,933	2,553,196	223,186	4,803,296	9,875,222	68.9	4,446,630	1,975,608	1,930,069	4,229,270
	11 mos.	8,085	104,651,634	34,155,055	153,740,015	20,116,998	27,809,179	2,664,566	51,321,387	107,410,491	69.9	46,329,524	22,012,048	21,728,041	36,977,522
Chicago, Burlington & Quincy	Nov.	8,988	16,512,223	3,118,772	21,130,865	3,047,997	2,688,620	309,425	5,439,103	12,092,944	57.2	9,037,921	3,057,717	2,430,528	1,093,729
	11 mos.	8,990	165,517,433	36,701,529	220,591,627	37,533,730	30,164,213	3,156,621	56,154,571	133,410,489	60.5	87,181,138	30,107,891	24,955,681	36,171,403
Chicago Great Western	Nov.	1,500	2,142,858	187,061	2,556,806	376,565	322,863	62,909	943,296	1,774,712	69.4	782,094	500,803	252,224	334,859
	11 mos.	1,500	23,031,137	2,610,890	27,814,826	4,150,831	3,532,948	709,418	10,173,425	19,378,916	69.8	8,435,910	5,000,826	2,885,969	3,543,196
Chicago, Indianapolis & Louisville	Nov.	541	840,077	86,734	1,000,347	194,953	190,010	33,615	351,444	814,106	81.4	186,241	103,626	68,746	333,791
	11 mos.	541	10,371,164	1,184,407	12,429,012	1,543,524	2,071,041	358,629	3,985,009	8,410,218	67.7	4,018,794	2,804,097	2,370,898	3,185,433

Table of operating revenues and expenses continued on next left-hand page

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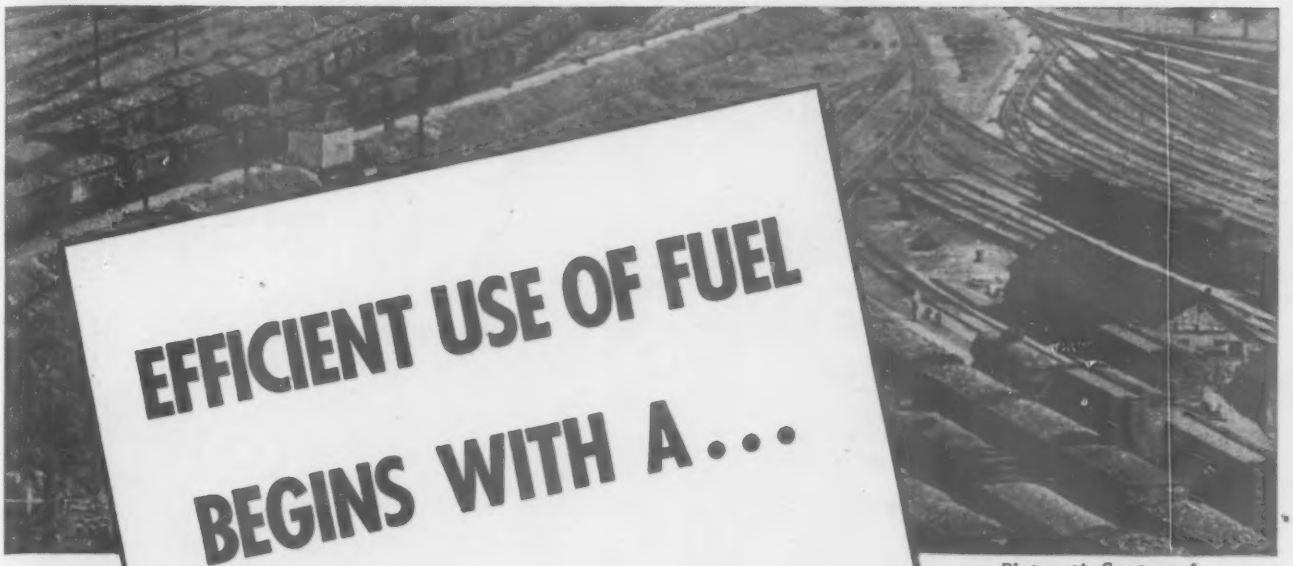
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	Net railway operating income 1943
Chicago, Milwaukee, St. Paul & Pacific	Nov.	10,723	$14,327,525	$2,724,963	$18,914,440	$3,177,582	$3,067,578	$293,758	$6,242,565	$13,445,161	71.1	$5,469,279	$3,359,279	$2,861,544	$5,026,433
	11 mos.	10,727	157,375,290	30,988,149	208,032,633	35,537,082	31,998,154	3,283,107	68,164,429	146,534,365	70.4	61,498,268	33,599,268	29,911,641	52,108,975
Chicago, Rock Island & Pacific	Nov.	7,751	11,490,647	3,582,422	16,278,756	2,378,964	2,182,393	346,653	4,604,325	10,113,520	62.1	6,165,236	1,989,817	1,446,977	2,858,164
	11 mos.	7,751	120,764,539	40,911,512	174,797,117	22,399,227	23,962,066	3,747,257	49,419,288	106,175,664	60.7	68,621,453	31,850,816	25,530,431	37,631,018
Chicago, St. Paul, Minneapolis & Omaha	Nov.	1,617	1,708,969	336,033	2,236,282	286,553	228,217	39,780	922,654	1,557,948	69.7	678,334	475,216	410,309	371,033
	11 mos.	1,617	18,733,534	4,028,923	24,940,381	3,462,583	3,581,552	442,931	10,482,936	18,872,011	75.7	6,068,370	4,000,181	3,302,301	4,600,408
Clinchfield	Nov.	302	1,129,281	9,169	1,146,411	77,349	185,571	22,228	252,368	557,665	48.6	588,746	452,784	468,006	318,004
	11 mos.	302	12,872,789	120,480	13,086,088	939,747	2,080,069	246,958	2,714,617	6,210,339	47.5	6,875,749	5,436,447	5,638,535	4,740,656
Colorado & Southern	Nov.	748	1,252,519	299,941	1,719,265	264,362	243,964	15,717	533,143	1,106,541	64.4	612,724	422,201	296,759	384,530
	11 mos.	748	10,888,829	3,584,082	15,644,700	2,150,720	2,448,433	190,365	4,812,631	10,120,805	64.7	5,523,895	3,455,124	2,705,904	3,050,102
Fort Worth & Denver City	Nov.	804	1,153,205	454,504	1,716,881	352,797	176,055	24,144	435,530	1,047,241	61.0	669,640	452,027	361,061	393,123
	11 mos.	804	9,672,518	5,013,716	15,829,251	2,937,469	1,606,529	274,668	4,036,778	9,512,166	60.1	6,317,085	3,567,612	2,795,256	3,674,581
Colorado & Wyoming	Nov.	42	82,958	.....	138,943	15,027	17,672	716	51,951	90,676	65.2	48,267	23,768	22,967	22,345
	11 mos.	42	968,293	.....	1,551,473	131,055	217,997	8,238	596,757	1,004,160	64.7	547,313	328,285	319,889	240,940
Columbus & Greenville	Nov.	168	120,036	11,168	141,880	31,795	18,103	5,101	50,672	118,510	83.5	23,370	7,672	6,690	6,867
	11 mos.	168	1,287,275	126,737	1,517,485	314,953	205,668	50,377	512,849	1,235,856	81.4	281,629	92,496	106,849	55,333
Delaware & Hudson	Nov.	846	3,705,012	209,220	4,014,293	482,119	1,083,969	48,068	1,395,186	3,125,881	77.9	888,412	677,921	690,369	1,140,139
	11 mos.	847	43,181,886	2,310,052	46,614,759	5,535,881	11,608,404	524,299	15,676,664	34,619,831	74.3	11,994,928	8,149,333	8,081,431	9,486,123
Delaware, Lackawanna & Western	Nov.	973	5,072,703	888,070	6,557,187	689,901	905,620	110,267	2,653,493	4,536,718	69.2	2,020,469	971,413	861,318	642,088
	11 mos.	973	55,457,474	10,161,198	72,479,195	7,955,711	11,330,513	1,257,682	29,475,518	52,033,652	71.8	20,445,543	6,614,399	5,624,438	10,034,468
Denver & Rio Grande Western	Nov.	2,388	5,004,416	716,488	6,054,377	692,630	1,228,815	111,114	1,788,192	4,019,214	66.4	2,035,163	1,026,393	873,360	518,848
	11 mos.	2,392	52,370,738	8,922,178	64,217,795	7,973,343	12,738,092	1,116,982	19,220,467	43,223,545	67.3	20,994,250	13,771,823	12,672,527	15,201,473
Denver & Salt Lake	Nov.	232	238,473	6,470	257,413	45,783	55,425	3,269	88,325	204,642	79.5	52,771	23,448	72,674	—22,126
	11 mos.	232	2,875,603	99,734	3,093,188	648,303	621,551	32,656	1,033,984	2,457,405	79.4	635,783	304,083	835,203	616,415
Detroit & Mackinac	Nov.	230	76,689	10,122	93,444	15,848	15,884	851	31,733	68,357	73.1	25,087	20,741	17,647	164
	11 mos.	230	723,400	125,661	933,795	202,835	192,019	9,058	349,452	796,769	85.3	137,026	89,605	61,712	35,479
Detroit & Toledo Shore Line	Nov.	50	322,243	.....	323,168	34,541	26,501	9,761	93,305	172,410	53.3	150,758	104,400	54,188	18,814
	11 mos.	50	3,906,173	.....	3,920,768	389,005	283,250	107,546	1,106,647	1,981,435	50.5	1,939,333	1,209,366	634,365	649,366
Detroit, Toledo & Ironton	Nov.	464	692,496	1,165	713,481	80,475	127,979	14,131	193,425	440,658	61.8	272,823	187,651	197,397	198,419
	11 mos.	464	7,834,334	15,706	8,241,356	990,791	1,465,736	165,968	2,157,807	5,057,953	61.4	3,183,403	1,882,047	1,904,088	2,288,745
Duluth, Missabe & Iron Range	Nov.	547	1,914,316	4,467	2,199,541	358,347	538,776	4,167	597,220	1,471,400	66.9	728,141	371,476	380,379	531,118
	11 mos.	546	34,782,927	62,225	40,343,082	4,317,197	5,979,239	47,133	7,881,219	18,742,519	46.5	21,600,563	11,545,743	11,693,675	8,776,688
Duluth, Winnipeg & Pacific	Nov.	175	158,000	2,700	168,300	56,071	33,666	2,034	79,301	174,815	103.9	—6,515	—21,145	—37,506	—2,339
	11 mos.	175	2,723,000	41,500	2,822,500	574,417	351,433	23,303	1,121,120	2,114,514	74.9	707,986	493,284	179,425	268,652
Elgin, Joliet & Eastern	Nov.	392	2,682,932	17	3,043,843	211,282	769,801	16,703	1,003,659	1,894,178	62.2	1,149,665	625,639	578,768	122,578
	11 mos.	392	27,546,092	201	31,861,958	2,971,760	8,449,401	187,599	11,211,490	23,548,291	73.9	8,313,667	4,023,104	3,311,820	1,803,545
Erie	Nov.	2,244	10,161,839	1,157,555	12,123,083	1,416,023	2,198,593	223,672	4,547,754	8,834,854	72.9	3,288,229	1,811,022	1,144,079	1,415,183
	11 mos.	2,244	123,545,279	12,566,756	145,231,658	14,976,596	24,541,959	2,513,319	52,890,297	99,902,536	68.8	45,329,122	24,650,922	17,852,716	17,327,879
Florida East Coast	Nov.	682	1,210,371	971,395	2,453,449	343,051	308,101	51,598	809,209	1,637,112	66.7	816,337	452,780	392,309	983,150
	11 mos.	682	14,821,284	12,093,374	29,116,659	3,700,268	3,246,797	576,449	8,359,602	17,270,958	59.3	11,845,701	6,556,719	5,575,142	9,455,238
Georgia Railroad	Nov.	329	692,223	141,739	878,344	107,394	117,206	22,080	309,941	577,811	65.8	300,533	268,345	265,983	207,217
	11 mos.	329	7,307,072	1,719,125	9,510,271	1,147,055	1,280,662	241,342	3,420,453	6,328,309	66.5	3,181,962	2,814,796	2,776,901	3,546,502
Georgia & Florida	Nov.	408	185,643	6,166	196,470	51,279	26,499	10,743	67,261	163,194	83.1	33,276	22,532	11,154	11,245
	11 mos.	408	2,056,085	75,687	2,189,897	585,881	278,069	117,585	768,526	1,834,069	83.8	355,828	236,609	119,108	216,109
Grand Trunk Western	Nov.	1,026	2,450,000	403,000	3,055,000	376,464	472,221	35,991	1,172,566	2,165,018	70.9	889,982	583,672	598,200	521,762
	11 mos.	1,026	26,334,000	4,217,000	32,669,000	5,415,370	5,338,642	414,725	12,678,219	25,084,029	76.8	7,584,971	5,206,281	4,930,845	5,957,107
Canadian National Lines in New England	Nov.	172	127,000	8,900	154,700	42,661	34,185	2,302	78,121	174,174	112.6	—19,474	—40,919	—74,328	—138,928
	11 mos.	172	1,312,200	136,100	1,701,700	552,660	354,666	25,635	986,102	2,122,359	124.1	—420,659	—656,554	—1,022,763	—1,199,383
Great Northern	Nov.	8,372	13,493,559	1,732,724	16,439,251	2,648,435	2,957,054	231,004	4,661,854	10,964,597	66.7	5,474,654	2,078,105	1,893,099	251,298
	11 mos.	8,372	159,153,059	18,760,916	191,699,459	30,714,327	32,310,391	1,922,763	51,393,814	121,576,490	63.4	70,122,969	30,667,626	28,736,275	25,674,588
Green Bay & Western	Nov.	234	187,275	560	194,282	63,127	20,597	8,210	70,570	173,028	89.0	21,254	—517	—3,565	34,911
	11 mos.	234	2,508,858	7,177	2,587,744	788,360	262,079	90,321	762,041	1,987,548	76.8	600,196	211,278	143,994	563,869
Gulf & Ship Island	Nov.	259	128,691	22,991	173,990	62,179	28,931	2,579	96,125	198,986	114.4	—24,996	—44,142	—59,865	56,131
	11 mos.	259	1,815,962	503,433	2,596,445	535,651	272,231	28,434	1,006,332	1,948,080	75.0	648,365	409,770	246,580	—110,962

Table of operating revenues and expenses continued on next left-hand page



EFFICIENT USE OF FUEL BEGINS WITH A...

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Complete ARCH

EVERY pound of coal involves scarce man-hours for its production and vital transportation to the point of use. Its economical use is essential.

For 36 years the fuel savings of the Security Sectional Arch have been universally recognized by railroad men.

But only a complete arch can give the maximum in fuel economy. To this end see that every locomotive leaving the roundhouse has a full length arch.

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60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	Net railway operating income 1943
Gulf, Mobile & Ohio	Nov.	1,952	$2,895,948	$173,576	$3,166,250	$554,245	542,651	85,838	878,701	2,189,380	69.2	$976,870	$528,139	$352,234	$391,020
	11 mos.	1,964	30,963,814	2,514,762	34,584,965	6,017,907	5,839,656	896,533	9,502,422	23,584,279	68.2	11,000,686	5,965,802	4,256,474	4,546,832
Illinois Central	Nov.	4,823	15,272,038	2,487,029	18,975,136	2,696,197	3,355,875	208,495	5,205,293	12,082,340	63.7	6,892,796	2,006,214	1,811,789	2,556,902
	11 mos.	4,823	157,827,761	34,284,622	205,013,539	30,050,764	36,233,469	2,156,751	57,307,697	132,663,595	64.7	72,349,944	25,529,344	22,483,585	29,567,155
Yazoo & Mississippi Valley	Nov.	1,524	1,790,999	447,866	2,404,085	574,028	331,148	33,823	901,572	1,930,335	80.3	473,750	316,241	214,147	226,613
	11 mos.	1,524	26,395,404	4,737,480	32,861,149	5,346,060	3,711,131	345,612	10,230,965	20,649,128	62.8	12,212,021	5,726,703	4,493,534	5,184,528
Illinois Central System	Nov.	6,347	17,063,037	2,934,895	21,379,221	3,270,225	3,687,023	242,318	6,106,865	14,012,675	65.5	7,366,546	2,320,289	2,027,849	2,790,428
	11 mos.	6,347	184,223,165	39,022,102	237,874,688	35,396,824	39,944,600	2,502,363	67,538,662	153,312,723	64.5	84,561,965	31,205,959	27,026,161	34,784,725
Illinois Terminal	Nov.	476	686,239	172,510	932,576	111,318	93,470	19,459	293,223	547,499	58.71	385,077	138,555	114,055	124,250
	11 mos.	476	7,762,930	1,992,166	10,649,354	1,155,419	1,027,219	218,346	3,159,846	5,854,956	54.98	4,794,398	1,656,351	1,311,789	1,420,439
Kansas City Southern	Nov.	878	3,103,426	453,556	3,760,726	526,593	585,601	64,560	957,020	2,271,341	60.4	1,489,385	1,036,385	736,859	308,621
	11 mos.	878	33,841,645	4,777,418	40,866,310	5,544,646	5,636,533	678,860	10,767,896	24,061,845	58.9	16,804,465	8,801,465	5,829,633	4,839,300
Kansas, Oklahoma & Gulf	Nov.	328	356,054	1,669	360,825	30,668	16,813	9,787	84,918	153,227	42.5	207,598	116,552	91,855	98,407
	11 mos	328	3,825,659	18,642	3,878,555	470,126	226,536	105,334	851,347	1,774,359	45.7	2,104,196	1,179,656	919,278	796,873
Lake Superior & Ishpeming	Nov.	156	131,668	119	160,237	26,914	28,875	641	47,586	112,749	70.4	47,488	23,411	30,876	16,709
	11 mos.	156	2,281,408	1,586	2,910,522	367,014	371,619	6,984	643,809	1,478,139	50.8	1,432,383	696,782	780,521	826,681
Lehigh & Hudson River	Nov.	96	203,715	45	204,373	42,627	37,528	5,576	64,887	157,726	77.2	46,647	31,195	16,664	16,398
	11 mos.	96	2,868,267	1,806	2,878,035	534,176	404,885	57,762	847,146	1,921,983	66.8	956,052	450,318	238,994	266,579
Lehigh & New England	Nov.	190	466,224	.....	468,910	41,106	110,769	7,374	145,878	325,118	69.3	143,792	76,956	83,314	42,294
	11 mos.	190	5,795,966	.....	5,828,736	520,888	1,291,939	84,202	1,698,800	3,816,745	65.5	2,011,991	1,108,455	1,207,704	1,206,737
Lehigh Valley	Nov.	1,260	6,488,270	637,463	7,585,580	1,130,140	1,299,166	118,439	2,900,711	5,689,567	75.0	1,896,013	1,821,859	1,552,751	862,896
	11 mos.	1,260	77,646,448	7,791,936	90,287,411	13,196,830	14,664,449	1,332,641	33,527,924	65,110,599	72.1	25,176,812	17,147,951	12,248,438	12,213,697
Louisiana & Arkansas	Nov.	834	1,700,865	139,385	1,897,934	118,024	183,137	35,304	402,943	796,800	42.0	1,101,134	341,685	269,820	184,958
	11 mos.	834	17,042,882	1,811,490	19,517,595	3,651,499	2,112,421	375,002	4,141,990	10,953,601	56.1	8,563,994	3,160,786	2,315,180	2,000,700
Louisville & Nashville	Nov.	4,753	13,210,156	3,698,540	17,862,227	1,859,421	2,901,649	218,588	5,401,650	10,934,775	61.2	6,927,452	1,879,711	2,108,206	2,050,051
	11 mos.	4,745	142,651,819	42,351,318	196,140,879	21,212,854	32,742,300	2,318,496	57,903,383	120,568,499	61.5	75,572,380	19,463,331	22,641,858	23,978,143
Maine Central	Nov.	988	1,320,334	309,057	1,729,920	452,709	303,766	13,884	572,819	1,397,328	80.8	332,592	125,553	96,749	92,368
	11 mos.	988	13,670,003	3,638,622	18,568,599	3,814,911	3,172,403	144,282	6,353,284	14,040,987	75.6	4,527,612	2,025,965	1,632,805	2,258,114
Midland Valley	Nov.	334	131,656	180	133,995	22,944	13,569	2,190	48,354	91,455	68.3	42,540	30,975	23,028	25,165
	11 mos.	334	1,508,152	1,848	1,536,359	313,959	141,545	26,205	516,423	1,048,765	68.3	487,594	339,557	227,255	330,931
Minneapolis & St. Louis	Nov.	1,408	1,174,213	30,637	1,252,269	101,200	186,307	68,971	413,647	847,212	67.7	405,057	121,166	124,619	184,874
	11 mos.	1,408	13,068,746	423,128	14,026,908	2,366,327	1,926,860	715,154	4,368,218	10,012,170	71.4	4,014,738	1,694,072	1,525,467	3,321,430
Minneapolis, St. Paul & Sault Ste. Marie	Nov.	4,277	3,352,732	243,028	3,893,252	568,209	694,087	77,700	1,530,613	3,000,331	77.1	892,921	431,272	398,890	1,404,236
	11 mos.	4,277	42,356,556	2,813,178	48,411,903	7,379,984	7,829,988	813,266	17,327,425	34,781,226	71.8	13,630,677	8,894,616	8,426,408	9,278,182
Duluth, South Shore & Atlantic	Nov.	551	308,377	32,520	361,764	62,932	52,960	10,294	129,665	264,255	73.0	97,509	73,312	71,524	89,848
	11 mos.	551	3,366,137	343,724	3,975,642	787,324	625,914	100,451	1,460,173	3,062,534	77.0	913,108	702,116	647,345	1,054,889
Spokane International	Nov.	152	186,882	4,857	208,681	58,995	13,059	3,083	40,789	122,935	58.9	85,746	34,433	23,315	18,741
	11 mos.	152	1,745,415	89,698	1,933,907	533,917	157,473	37,451	514,335	1,318,788	68.2	615,119	344,779	220,194	268,461
Mississippi Central	Nov.	158	169,128	10,384	183,855	37,732	15,458	9,318	47,222	116,044	63.1	67,811	43,396	28,895	27,678
	11 mos.	158	1,899,112	71,243	2,005,062	355,306	193,864	98,758	528,209	1,256,299	62.7	748,763	480,081	335,056	290,685
Missouri & Arkansas	Nov.	365	232,144	3,346	243,395	79,735	28,764	9,313	81,762	207,852	85.4	35,543	28,006	3,188	1,498
	11 mos.	365	1,208,430	40,419	2,343,416	580,194	268,926	85,106	762,548	1,774,620	75.7	568,796	375,842	177,512	25,988
Missouri-Illinois	Nov.	172	304,631	1,020	307,116	53,579	41,912	4,128	92,791	199,436	64.9	107,680	72,535	66,029	26,680
	11 mos.	172	3,162,602	13,635	3,196,169	478,566	459,648	41,615	852,902	1,901,983	59.5	1,294,186	611,203	536,861	394,078
Missouri-Kansas-Texas Lines	Nov.	3,253	5,352,131	1,125,964	7,005,731	1,663,199	808,634	141,792	1,993,055	4,833,119	69.0	2,172,612	2,018,293	1,561,104	1,530,999
	11 mos.	3,262	58,412,748	12,699,375	76,623,207	17,115,534	9,263,320*	1,472,127	21,889,016	52,321,439	68.3	24,301,768	11,590,826	6,905,284	9,127,402
Missouri Pacific	Nov.	7,097	15,149,060	3,541,717	20,196,652	2,588,918	2,660,083	312,790	5,378,822	11,503,164	56.9	8,693,488	3,502,824	2,646,112	2,676,477
	11 mos.	7,097	160,825,313	39,921,281	215,791,270	25,231,773	29,495,689	3,374,363	59,328,167	123,540,496	57.2	92,250,774	40,705,469	31,400,019	36,422,767
Gulf Coast Lines	No.														
	11 mos.														
International Great Northern	Nov.	1,110	1,893,292	444,446	2,578,534	497,634	328,799	36,118	820,745	1,780,007	69.0	798,527	455,695	289,502	347,831
	11 mos.	1,110	19,803,232	5,690,726	28,176,769	5,377,600	3,746,299	400,146	9,016,267	19,633,023	69.7	8,543,746	4,995,989	3,164,898	3,838,492
Monongahela	Nov.	170	540,466	1,875	545,098	81,232	42,766	596	145,175	273,162	50.1	271,936	180,308	92,440	14,879
	11 mos.	170	6,080,502	23,717	6,157,643	853,264	522,838	7,631	1,576,616	3,002,314	48.8	3,155,329	2,139,341	1,176,427	1,254,112

* The 10 months' figure was reported as $14,177,533 in the *Railway Age*, December 9. M-K-T's President Sloan advises that the correct 10 months' figure is $8,454,685.

Table of operating revenues and expenses continued on next left-hand page

• The 10 months' figure was reported as $14,177,533 in the *Railway Age*, December 9. M-K-T's President Sloan advises that the correct 10 months' figure is $8,454,685.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1944	1943
Montour	Nov.	51	$234,091	.....	$235,142	$17,602	$58,408	$1,064	$72,181	$157,369	66.9	$77,773	$19,579	$62,279	$26,120
	11 mos.	51	2,751,639	.....	2,765,010	201,189	708,993	11,018	790,258	1,797,928	65.0	967,082	290,501	721,409	684,000
Nashville, Chattanooga & St. Louis	Nov.	1,072	2,820,364	$506,224	3,593,512	673,236	986,707	84,438	1,069,507	2,925,626	81.4	667,886	342,491	310,605	432,328
	11 mos.	1,072	29,308,073	7,009,411	39,157,250	6,914,449	8,173,016	901,202	12,161,543	29,331,432	74.9	9,825,818	3,753,624	3,368,459	4,497,424
New York Central	Nov.	10,746	38,391,794	12,860,047	56,800,020	8,924,722	10,807,754	723,144	22,556,464	45,249,163	79.7	11,550,857	6,530,169	4,967,918	5,266,014
	11 mos.	10,746	433,574,964	168,784,445	663,129,296	94,400,333	117,810,343	7,795,520	236,532,068	481,309,522	72.6	181,819,774	78,799,975	61,506,670	80,439,361
Pittsburgh & Lake Erie	Nov.	229	2,428,654	109,418	2,627,984	370,569	915,994	42,879	1,007,578	2,450,397	93.2	177,587	—183,887	347,693	305,418
	11 mos.	229	29,807,907	1,222,691	32,025,267	3,750,812	10,264,836	476,258	10,429,009	26,108,065	81.5	5,917,202	—906,279	4,988,345	5,547,077
New York, Chicago & St. Louis	Nov.	1,687.16	7,588,684	392,790	8,141,732	697,796	1,314,589	142,713	2,477,745	4,827,778	59.3	3,313,954	1,410,442	1,043,897	1,101,473
	11 mos.	1,688.23	86,165,940	4,369,070	92,265,877	9,588,467	13,629,890	1,541,209	28,168,228	55,210,047	59.8	37,055,830	15,495,347	10,442,892	12,552,542
New York, New Haven & Hartford	Nov.	1,838	7,040,296	6,162,016	14,400,592	1,809,022	2,308,346	132,914	5,102,709	10,074,688	70.0	4,325,904	1,850,350	909,875	1,943,360
	11 mos.	1,838	85,586,030	68,963,834	167,413,223	21,806,209	25,051,048	1,620,334	58,093,483	114,548,364	68.4	52,864,859	31,156,261	19,297,398	30,900,429
New York Connecting	Nov.	21	206,610	.....	226,933	65,394	11,078	.....	46,991	125,154	55.2	101,779	—15,769	163,288	127,005
	11 mos.	21	2,491,170	.....	2,741,756	755,636	134,229	.....	579,130	1,489,897	54.3	1,251,859	—273,494	1,522,860	1,272,216
New York, Ontario & Western	Nov.	546	624,902	5,117	687,717	88,730	138,223	23,396	417,152	693,293	100.8	—5,576	—48,823	—104,714	—6,798
	11 mos.	546	7,515,098	449,390	8,612,865	1,011,819	1,712,049	256,237	4,889,142	8,162,047	94.8	450,818	—41,136	—717,011	288,153
New York, Susquehanna & Western	Nov.	120	352,530	33,606	397,713	34,967	41,499	4,483	149,182	247,308	62.2	150,405	86,616	41,519	70,282
	11 mos.	120	4,708,409	390,324	5,255,902	416,711	477,797	51,592	1,864,549	2,989,003	56.9	2,266,899	1,468,324	837,726	990,605
Norfolk & Western	Nov.	2,154	10,895,875	1,321,908	12,611,688	1,263,269	2,373,436	177,160	3,029,916	7,295,643	57.8	5,316,045	1,446,116	2,095,784	2,598,272
	11 mos.	2,154	126,763,501	15,842,907	147,000,398	15,765,823	28,276,746	1,816,783	32,644,659	82,436,740	56.1	64,563,658	16,589,287	23,674,928	21,914,504
Norfolk Southern	Nov.	727	621,593	17,975	662,613	136,783	85,836	31,119	241,449	523,381	79.0	139,233	82,247	55,601	96,782
	11 mos.	728	7,072,480	301,418	7,616,719	1,785,313	908,682	319,014	2,611,760	5,925,325	77.8	1,691,394	1,011,307	690,781	1,049,096
Northern Pacific	Nov.	6,867	10,148,145	2,143,689	13,368,034	2,312,121	2,409,575	189,333	3,976,821	9,438,737	70.6	3,929,297	1,987,454	2,344,210	3,927,738
	11 mos.	6,867	111,040,099	20,762,163	143,591,577	20,479,543	26,960,932	2,014,984	41,951,498	97,609,014	68.0	45,982,563	18,170,898	21,643,421	31,947,192
Northwestern Pacific	Nov.	331	445,959	17,074	489,902	161,870	55,157	2,600	188,082	414,422	84.6	75,480	47,944	20,316	—48,293
	11 mos.	331	5,172,211	222,477	5,650,090	1,831,796	669,053	32,046	1,867,957	4,475,538	79.2	1,174,552	881,907	610,081	789,815
Oklahoma City-Ada-Atoka	Nov.	132	128,618	353	131,783	19,068	6,193	1,122	31,076	61,819	46.9	69,964	40,332	26,955	24,017
	11 mos.	132	1,460,213	6,090	1,481,871	213,442	52,538	13,111	323,926	651,594	44.0	830,277	480,012	324,863	308,517
Pennsylvania	Nov.	10,090	55,581,124	21,150,175	82,923,368	9,320,229	14,857,512	1,076,887	31,835,332	60,010,005	72.4	22,913,363	10,203,538	9,302,043	4,445,647
	11 mos.	10,096	624,766,574	238,227,807	931,917,947	107,238,765	173,557,722	11,306,060	352,499,098	675,846,282	72.5	256,071,665	114,587,102	103,575,730	118,470,610
Long Island	Nov.	376	1,163,792	2,047,454	3,406,570	534,858	512,924	27,746	1,595,674	2,736,297	80.3	670,273	394,387	123,223	—74,544
	11 mos.	376	13,235,275	26,381,748	41,612,077	6,253,946	6,027,013	239,508	17,934,951	31,071,144	74.7	10,540,933	5,526,805	2,807,411	3,814,038
Pennsylvania-Reading Seashore Lines	Nov.	392	539,337	247,228	814,562	169,351	89,365	6,705	447,068	734,347	90.2	80,215	—9,646	—111,061	—202,647
	11 mos.	392	5,731,679	5,467,089	11,587,350	1,784,134	1,106,959	93,559	5,266,930	8,540,909	73.7	3,046,441	1,864,843	528,929	1,057,496
Pere Marquette	Nov.	1,949	3,943,752	242,493	4,390,238	851,146	865,267	71,499	1,664,656	3,616,953	82.4	773,285	444,846	385,722	366,318
	11 mos.	1,963	46,070,159	3,644,654	52,171,612	9,200,804	9,339,541	799,408	18,317,531	39,612,010	75.9	12,559,602	5,526,205	4,654,519	5,799,895
Pittsburg & Shawmut	Nov.	97	119,676	.....	120,433	26,272	25,849	1,488	38,199	98,978	82.2	21,455	27,630	26,477	408
	11 mos.	97	1,399,619	.....	1,407,018	395,526	277,001	20,205	399,733	1,155,601	82.1	251,417	222,561	203,091	227,030
Pittsburgh & West Virginia	Nov.	136	588,053	.....	607,247	97,382	106,280	20,338	149,072	399,196	65.7	208,051	254,777	273,875	125,261
	11 mos.	136	6,509,408	187	6,712,008	1,171,889	1,246,355	231,306	1,675,587	4,629,365	68.9	2,082,643	1,559,538	1,802,435	1,667,608
Pittsburg, Shawmut & Northern	Nov.	190	87,593	.....	88,337	20,590	19,870	1,141	43,518	91,111	103.1	—2,774	—8,869	—13,548	610
	11 mos.	190	1,145,749	.....	1,158,877	282,676	241,563	12,075	506,553	1,106,052	95.4	52,825	—21,317	—79,478	131,165
Reading	Nov.	1,410	8,196,295	876,368	9,482,666	1,714,741	1,921,829	84,771	3,370,529	7,303,716	77.0	2,178,950	1,132,681	1,166,591	1,030,670
	11 mos.	1,411	92,133,674	9,501,800	106,356,056	14,300,540	20,941,071	916,745	36,456,647	74,853,720	70.4	31,502,336	14,064,143	13,023,889	15,889,508
Richmond, Fredericksburg & Potomac	Nov.	118	1,445,765	1,178,256	2,883,885	223,444	348,276	16,163	844,559	1,574,526	54.6	1,309,359	328,895	203,241	258,714
	11 mos.	118	16,691,307	15,066,774	34,641,275	2,311,105	4,035,102	167,238	8,646,819	16,483,606	47.6	18,157,669	4,642,709	2,948,821	3,540,273
Rutland	Nov.	407	314,325	51,282	440,372	55,569	89,473	12,282	226,171	398,539	90.5	41,833	15,001	9,345	32,701
	11 mos.	407	3,288,955	684,585	4,718,964	682,154	968,956	133,829	2,389,619	4,345,895	92.1	373,069	86,617	80,384	337,638
St. Louis-San Francisco	Nov.	4,646	7,345,943	1,878,951	9,982,266	1,178,460	1,786,645	162,897	3,121,186	6,607,573	66.2	3,374,693	1,778,241	1,739,774	1,389,366
	11 mos.	4,650	76,596,762	22,309,227	106,451,455	13,864,219	19,516,045	1,840,920	33,708,237	72,757,255	68.3	33,694,200	16,101,298	15,896,582	20,577,468
St. Louis, San Francisco & Texas	Nov.	159	244,128	35,837	288,186	40,431	29,658	13,874	109,651	200,800	69.7	87,386	49,844	24,906	123,035
	11 mos.	159	3,175,366	314,681	3,576,582	429,758	338,649	124,758	1,130,818	2,104,027	58.8	1,472,555	642,162	366,830	974,871

Table of operating revenues and expenses continued on next left-hand page

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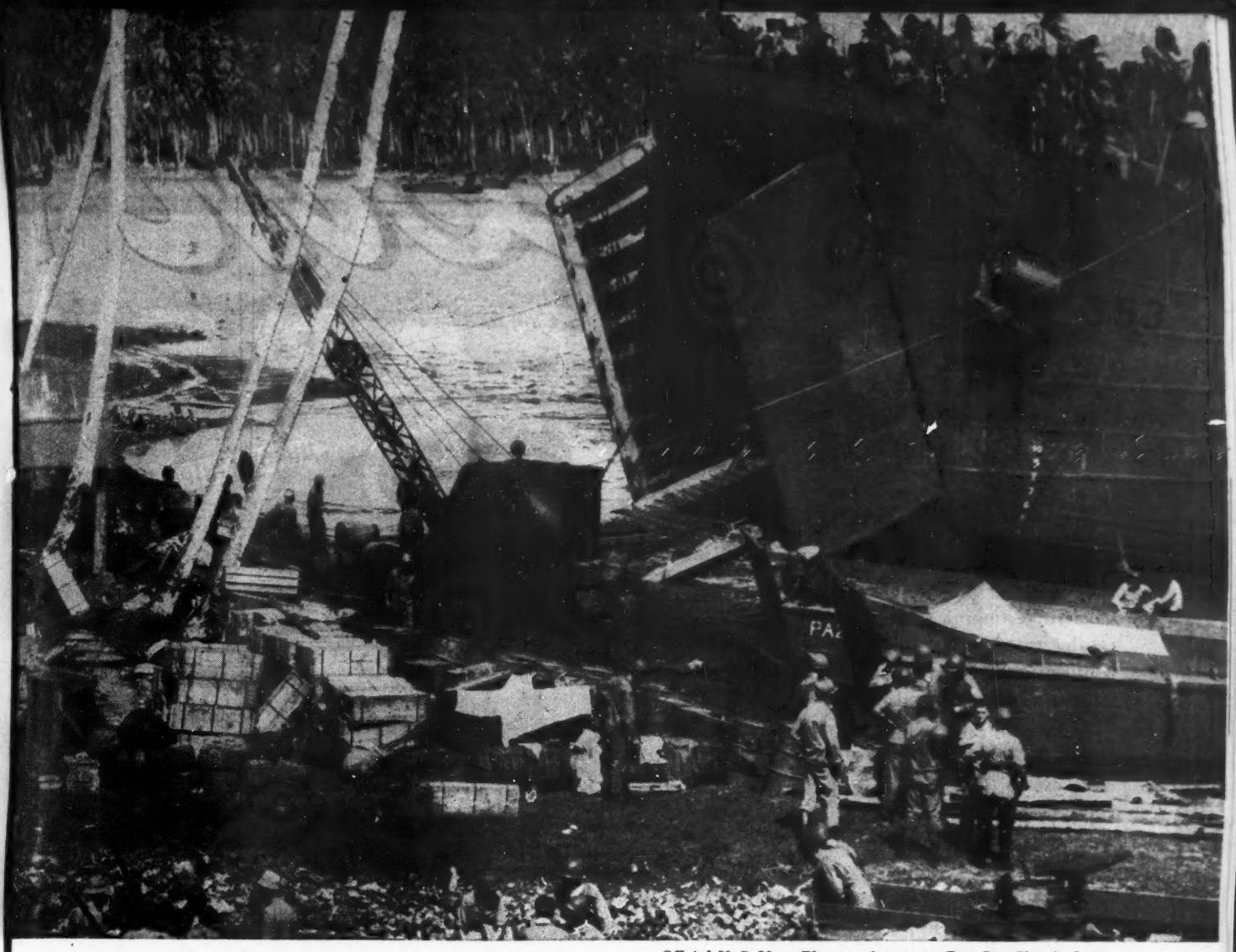
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	Net railway operating income 1943
St. Louis Southwestern Lines	Nov.	1,607	$5,905,917	$282,623	$6,341,637	$568,200	$476,280	$104,551	$1,331,210	$2,613,004	41.2	$3,728,633	$1,253,436	$991,454	$682,092
	11 mos.	1,607	60,861,880	3,802,371	66,227,700	6,878,848	6,162,795	1,119,824	14,774,147	30,394,379	45.9	35,833,321	13,009,887	9,851,511	10,113,821
Seaboard Air Line	Nov.	4,174	7,302,320	3,375,863	11,432,047	1,354,825	1,746,693	240,317	3,475,940	7,305,832	63.9	4,126,215	2,206,215	1,805,110	2,444,630
	11 mos.	4,175	81,593,444	39,041,828	129,408,643	15,893,989	18,325,495	2,590,139	38,199,704	80,484,691	62.2	48,923,952	25,348,952	20,654,113	30,935,319
Southern Railway	Nov.	6,505	15,739,281	4,781,209	21,785,751	2,225,275	3,487,662	223,940	6,320,968	12,919,119	59.3	8,866,632	3,005,076	2,718,616	3,240,809
	11 mos.	6,509	171,970,919	54,618,659	240,162,035	28,906,011	37,354,364	2,372,367	68,024,699	143,786,133	59.9	96,375,902	33,745,718	30,080,914	33,402,209
Alabama Great Southern	Nov.	315	1,250,180	418,545	1,761,631	147,929	355,064	25,790	611,489	1,196,025	67.9	565,606	185,828	125,712	309,071
	11 mos.	315	14,724,134	4,611,701	20,354,624	1,913,587	3,461,474	254,062	6,149,756	12,422,317	61.0	7,932,307	2,396,177	1,735,226	2,776,325
Cincinnati, New Orleans & Texas Pacific	Nov.	337	2,293,114	706,705	3,151,727	270,231	702,091	38,022	831,487	1,932,164	61.3	1,219,563	359,087	375,777	596,387
	11 mos.	337	26,167,772	7,386,663	35,195,364	3,350,035	7,396,455	404,570	9,037,131	21,177,035	60.2	14,018,329	4,232,359	4,511,502	5,769,672
Georgia Southern & Florida	Nov.	397	258,439	201,712	512,511	72,455	63,872	2,564	163,164	317,647	62.0	194,864	94,158	62,040	59,962
	11 mos.	397	3,241,682	2,200,476	6,018,570	877,459	788,114	28,619	1,938,416	3,812,033	63.3	2,206,537	1,041,910	648,281	1,024,345
New Orleans & Northeastern	Nov.	204	826,619	218,246	1,095,723	85,517	156,399	13,044	314,454	606,844	55.4	488,879	189,425	108,570	110,673
	11 mos.	204	9,007,852	2,381,026	11,926,980	1,405,610	1,403,021	128,515	3,428,952	6,778,493	56.8	5,148,487	1,971,218	1,094,545	1,572,677
Southern Pacific	Nov.	8,257	27,902,112	8,624,200	40,127,309	5,330,114	7,375,076	655,295	14,013,870	29,549,291	73.6	10,578,018	3,484,393	2,112,632	3,479,495
	11 mos.	8,262	319,389,738	97,621,801	453,527,140	61,395,947	81,507,008	6,745,623	141,318,935	314,467,852	69.3	139,059,288	52,372,108	36,001,661	53,422,510
Texas & New Orleans	Nov.	4,334	8,760,483	2,051,540	11,458,874	1,411,740	1,330,009	147,390	3,022,931	6,278,269	54.8	5,180,605	1,785,556	1,251,636	1,679,508
	11 mos.	4,338	90,310,760	25,957,735	123,119,310	16,045,958	15,025,025	1,693,324	31,795,445	68,666,681	55.8	54,452,629	17,580,975	11,892,072	23,079,731
Spokane, Portland & Seattle	Nov.	944	1,786,097	270,223	2,192,635	505,643	171,099	13,219	642,050	1,394,282	63.6	798,353	609,269	422,526	147,589
	11 mos.	944	20,098,571	2,377,370	23,764,203	6,145,255	2,170,575	147,063	6,939,909	16,109,910	67.8	7,654,293	5,788,313	3,770,775	4,918,820
Tennessee Central	Nov.	286	267,334	33,854	320,379	95,461	65,165	6,861	131,631	315,167	98.4	5,212	—6,519	—21,004	67,708
	11 mos.	286	3,615,480	628,910	4,459,951	946,365	720,759	76,888	1,462,171	3,397,352	76.2	1,062,599	579,801	391,431	766,054
Texas & Pacific	Nov.	1,884	4,215,727	1,558,593	6,323,824	987,520	837,120	113,092	1,585,381	3,789,770	59.9	2,534,054	823,162	562,191	786,849
	11 mos.	1,884	47,680,127	19,394,245	73,235,324	10,038,845	10,469,022	1,222,839	17,319,226	42,077,692	57.5	31,157,632	8,419,972	6,162,149	8,564,329
Texas Mexican	Nov.	162	123,701	329	144,061	80,272	15,603	4,014	46,272	155,422	107.9	—11,361	—42,851	—51,700	49,417
	11 mos.	162	1,845,495	10,069	2,136,479	483,034	190,873	45,924	530,783	1,354,626	63.4	781,853	478,757	377,112	519,596
Toledo, Peoria & Western	Nov.	239	437,952	58	441,965	49,088	24,465	25,021	101,641	214,583	48.6	227,382	208,680	187,145	182,495
	11 mos.	239	4,763,816	705	4,810,893	440,042	242,069	265,831	982,464	2,075,586	43.1	2,735,307	2,457,619	2,215,709	2,173,113
Union Pacific System	Nov.	9,782	33,369,460	7,283,806	43,984,810	4,361,362	6,996,707	588,429	11,821,730	25,537,776	58.1	18,447,034	4,456,673	3,092,631	2,421,820
	11 mos.	9,782	339,775,040	84,278,616	458,702,588	58,888,618	78,056,826	6,367,768	124,812,455	288,235,209	62.8	170,467,179	46,156,720	34,205,032	37,886,847
Utah	Nov.	111	99,170	.....	99,187	14,440	35,767	586	31,273	86,378	87.1	12,809	3,519	11,226	8,563
	11 mos.	111	1,207,845	.....	1,208,653	146,993	421,015	6,188	373,441	995,523	82.4	213,130	107,196	124,734	127,826
Virginian	Nov.	657	2,355,185	7,677	2,456,616	267,127	638,705	24,996	562,261	1,547,381	63.0	909,235	459,235	593,326	611,440
	11 mos.	657	26,023,391	100,919	27,036,248	2,913,410	6,283,578	272,614	5,648,026	15,736,115	58.2	11,300,133	5,414,133	6,571,110	6,835,210
Wabash	Nov.	2,393	6,769,357	870,766	8,069,319	1,041,549	993,153	171,337	2,538,332	5,006,862	62.0	3,062,457	1,143,498	734,301	901,773
	11 mos.	2,393	72,238,018	9,810,826	87,084,799	11,291,793	10,753,050	1,820,397	26,914,852	53,602,310	61.6	33,482,489	12,843,850	8,267,600	10,778,172
Ann Arbor	Nov.	294	497,916	9,103	531,188	53,524	96,464	16,483	211,372	390,872	73.6	140,316	56,354	52,388	45,956
	11 mos.	294	5,151,447	120,936	5,466,692	667,007	941,443	178,405	2,217,192	4,139,569	75.7	1,327,123	659,997	626,413	714,515
Western Maryland	Nov.	840	2,782,107	25,849	2,900,488	516,848	601,007	44,880	772,934	2,033,248	70.1	867,240	567,240	602,252	587,323
	11 mos.	840	32,349,231	339,190	33,650,645	4,853,805	6,525,119	485,843	8,966,761	21,832,968	64.9	11,817,677	6,013,677	6,309,745	7,222,008
Western Pacific	Nov.	1,195	4,166,098	624,989	4,961,522	553,758	637,839	85,520	1,327,424	2,779,703	56.0	2,181,819	1,986,033	1,769,396	771,127
	11 mos.	1,195	39,280,351	7,233,420	48,193,509	6,024,530	6,517,382	915,691	14,175,544	29,311,945	60.8	18,881,564	9,430,761	7,735,742	10,829,597
Wheeling & Lake Erie	Nov.	507	2,001,889	.....	2,070,125	202,808	363,776	46,323	613,740	1,298,794	62.7	771,331	67,137	227,288	263,466
	11 mos.	507	22,283,607	44	23,112,281	2,624,037	4,271,225	459,266	6,902,964	14,845,287	64.2	8,266,994	1,182,292	2,991,489	3,551,555



Official U. S. Navy Photograph courtesy Bay City Shovels, Inc.

Inland Steel in the South Seas

Go anywhere among America's fighting men in the South Seas and you will find steel from Inland—sometimes working for Victory at a permanent base—at other times plowing the South Seas, carrying men and supplies in many types of fighting, carrier, and landing vessels.

In the picture shown above an LST, with bow doors swung wide, is emitting a flow of vital supplies for Rendova Island in the central Solomons. Aiding in this work is a crawler-type crane. In the foreground are personnel landing craft. Thousands upon thousands of tons of Inland plates, sheets, and structural shapes have gone into building cranes and craft of these types.

Today, as every day since the attack at Pearl Harbor, Inland mills and Inland men are engaged full time making steel for America at war.

Bars • Floor Plate • Piling • Plates • Rail
Reinforcing Bars • Sheets • Strip • Structurals
Tin Plate • Track Accessories

INLAND STEEL COMPANY

38 S. Dearborn St., Chicago 3, Illinois

Sales Offices: Cincinnati • Detroit • Kansas City • Milwaukee • New York • St. Louis • St. Paul

Western DUMP CARS

The 30-yd. Dump Car shown in three positions on these pages was selected by all seven of the railroads listed on the opposite page—selected for the efficient, economical operation which results from its exclusive up-to-date features, and modern design and construction, as compared with the antiquated dump cars many railroads are still using.

"Western" cars are universally acceptable for interchange service under load the same as any revenue car, and perform a variety of work at lowest cost. Individual cars, or the entire train, may be dumped at one time, standing still or while moving slowly ahead, without stopping the train. Light weight, streamlined construction provides high pay-load ratio to dead weight. Other features of special interest to railroads include: low weight, low center of gravity, stability running and dumping, fast and easy dumping.

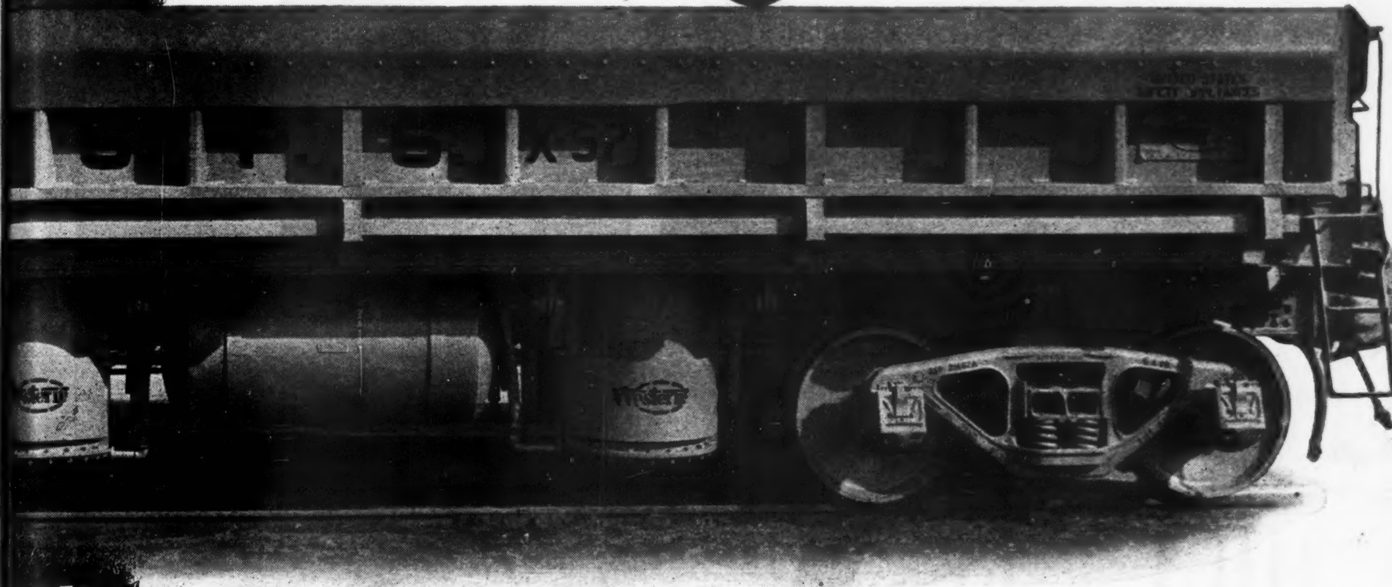
It is for such reasons as these that more than 100 railroads have purchased "Western" dump cars for the construction and maintenance of thousands of miles of lines.

MONON ROUTE

First on the "Preference List" of America's Railroads...

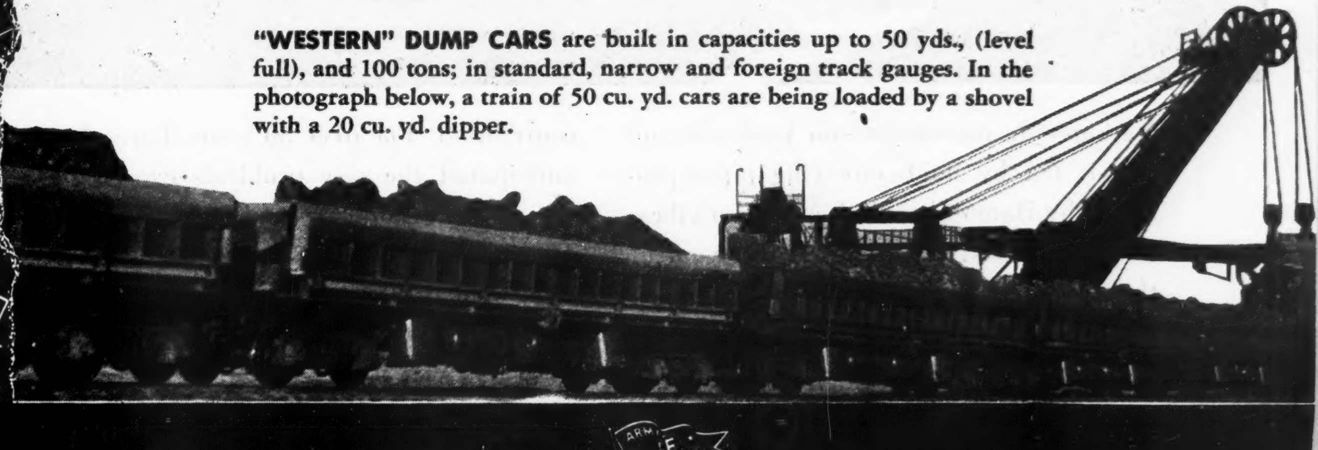
... as witness these recent purchases of "Western" cars, all of 30-yard size.

Chicago, Burlington & Quincy Railroad Co.	50
Chicago, Milwaukee, St. Paul and Pacific R. R.	25
Colorado & Wyoming Railway Company	15
Maine Central Railroad	12
Norfolk & Western Railwa	20
Northern Pacific Railway	30
Spokane, Portland and Seattle Railway System	4



THE CAR THE RAILROADS ARE BUYING—30 cu. yd. level-full, 100,000 lb. capacity, standard, heavy-duty, railroad-type, dual side pivot, drop door, all steel, automatic air dump car. Complies with latest A.A.R. and I.C.C. requirements. Car bed rests on underframe, upon rubber shock-absorbing cushion pads. Doors designed for exceptional strength at top.

"WESTERN" DUMP CARS are built in capacities up to 50 yds., (level full), and 100 tons; in standard, narrow and foreign track gauges. In the photograph below, a train of 50 cu. yd. cars are being loaded by a shovel with a 20 cu. yd. dipper.



World's Largest Manufacturer of Dump and Trail Cars

AUSTIN-WESTERN COMPANY

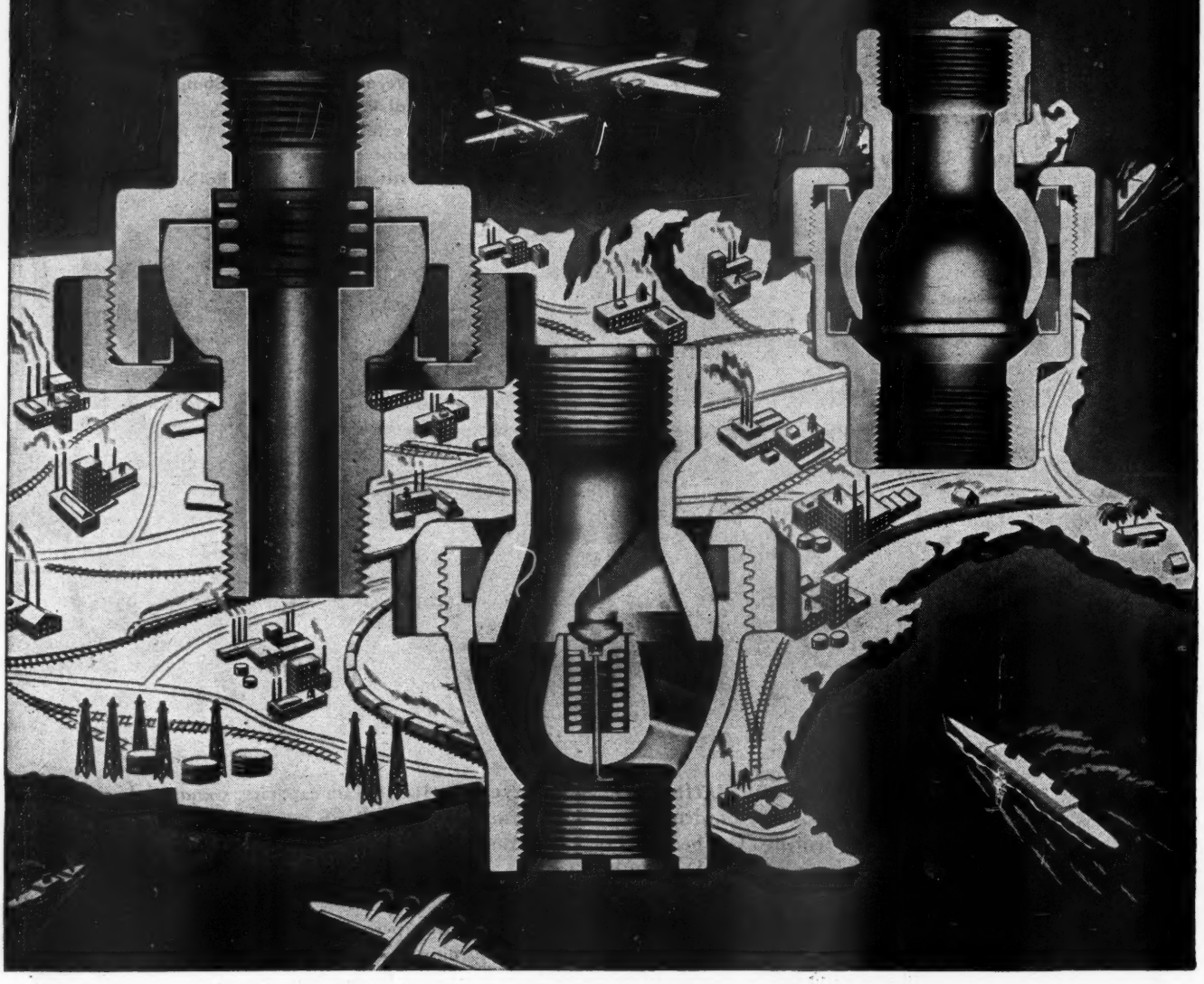
(Formerly the Western Wheeled Scraper Company)

AURORA, ILLINOIS • CABLE ADDRESS: AWCO, AURORA

Austin-Western also builds Power Graders, Rollers, Shovels and Cranes, Street Sweepers and a complete line of Rock Crushing and Screening Plants and Kindred equipment.

SERVING the Age of Movement

WITH THE ALMOST INDISPENSABLE BARCO JOINTS



Nation-wide movement—on land, sea and air—is fed by fluid-conveying pipes protected by Barco Flexible Joints from vibration and shock. By responsive movement through every angle, Barco absorbs strain and stress, compensates for expansion and contraction. For over 30 years Barco has anticipated the new problems caused by the growth of industry and transportation. The invaluable experience and exact technical skill of Barco's engineering department is available to you on request.

In Canada: The Holden Co., Ltd., Montreal, Canada

BARCO FLEXIBLE JOINTS

MANUFACTURING CO., NOT INC. • 1800 Winnemac Ave., CHICAGO 40, ILL.

Not just a swivel joint...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.

THE FREE ENTERPRISE SYSTEM IS THE SALVATION OF AMERICAN BUSINESS

"MOVE IN EVERY DIRECTION"

MERCY TRAINS---I

Verdun, Valognes, Rheims, Serfontaine—here are names to rise forever through the mists of memory for U.S. doughboys of two wars. But to thousands of American boys in this war they mean still more . . .

Here, or maybe at Chef du Pont or Charleroi or Lison, the last thundering roll of battle faded for *these* boys as gentle hands placed them aboard a hospital train of the Military Railway Service of the Army Transportation Corps.

No more booming artillery or crackling machine guns; no more mud or rain or K-rations or dreary huddles in battered stables. Now they were being cared for by skilled medical men and kindly, understanding nurses as a mercy train wound slowly toward St. Lazaire station in Paris, or an embarkation port that was the next stop on the journey back to their own America.

Here again, in the operation of hospital trains from the big evacuation hospitals up near the front, U.S. railroaders in Army uniform have added glory to the story of transport in this war.

In France, as in Italy and North Africa earlier, passenger cars and baggage cars were converted to ward dressing cars—two or three tiers of cots along the sides, a wound-dressing station in the center where doctors and nurses worked quietly as their rolling hospital moved across the French countryside. A little pharmaceutical laboratory, perhaps, or some other bit of equipment—it all did so nobly for men who had earned this care.

In just two months in late 1944, the Transportation Corps' 37 hospital trains in France made 128 runs carrying 40,072 patients!

It was the same story of achievement more than a year earlier, as U.S. fighting men stormed through Algeria and Tunisia in the North African campaign. Eleven complete hospital trains had been converted from old equipment, and in nine months they rolled 87,000 miles—255 trips in which nearly 50,000 men were evacuated to base hospitals.

In our next dispatch we'll tell you about the great work of the hospital trains right here at home.

—*The Trackwalker**

★ ★ ★

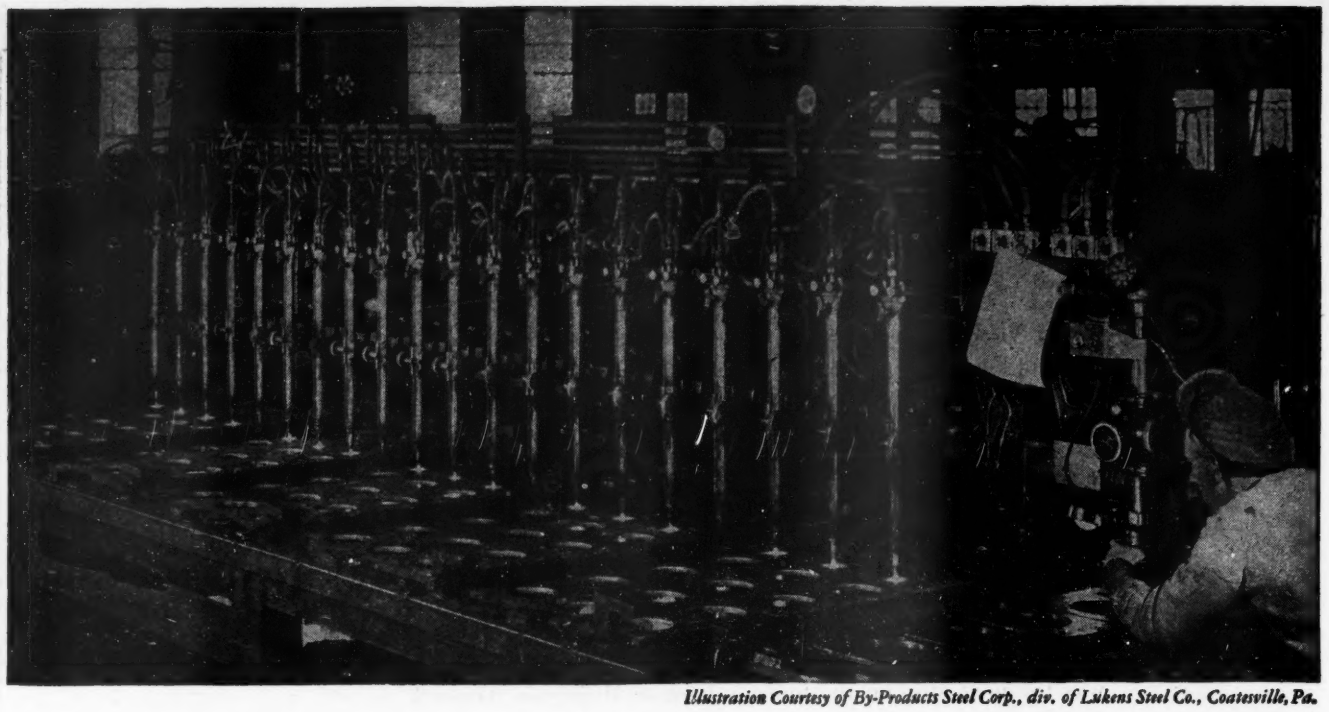
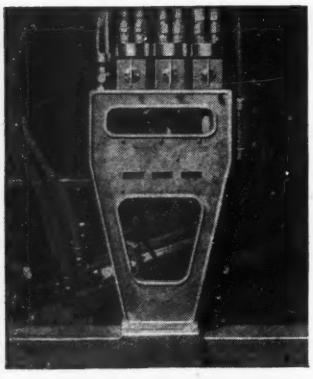
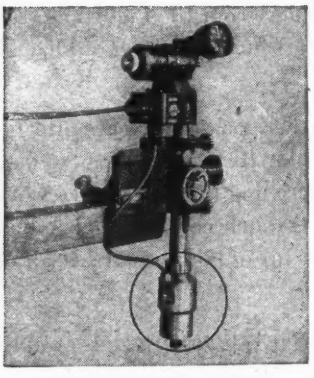


Illustration Courtesy of By-Products Steel Corp., div. of Lukens Steel Co., Coatesville, Pa.



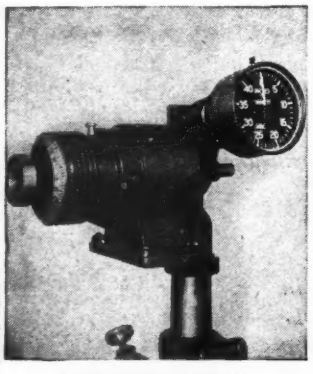
CENTRALIZED GAS CONTROL UNIT

Gives the operator remote control of the pilot light, acetylene, preheating and cutting oxygen from his station at the tracing device.



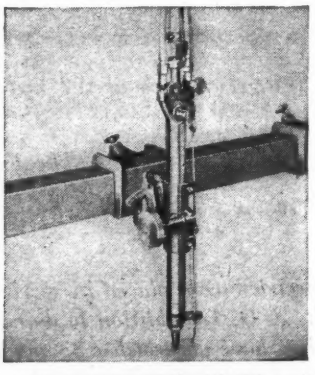
MAGNETIC TRACING DEVICE

An exclusive Airco feature, this device guides cutting torches by automatically following the contour of a steel cam or template.



INDEX SPEED CONTROL

Permits easy, accurate adjustment of torch travel speed during cutting. Speed is visible on the Tachometer attached to the unit.



ADJUSTABLE TORCH HOLDER

Allows torch to be moved easily and locked tightly at any desired position along the bar or tilted up to 45° for bevel cutting.

CUTTING METAL PARTS, CUTTING COSTS

with the

AIRCO No. 6A OXYGRAPH

The motor-driven Airco No. 6A Oxygraph is designed to provide the speed, flexibility and accuracy essential to lowest-cost production of flame-cut steel shapes in any quantity.

It quickly cuts steel plate of light and heavy sections to any shape and size. It can be used for beveling, squaring, straight cutting, stack cutting—changing from one job to another in minimum time—using up to eight torches with standard equipment.

The listing below of some of the plus factors of the No. 6A Oxygraph provides an inkling of its wide acceptance throughout the metal working industry as an important production tool:

1. Extreme accuracy under load—the pantograph design provides maximum resistance to torsion and deflection.
2. The rigid, sturdy base gives trouble-free support to the stout vertical posts and pantograph assembly.
3. Manual, magnetic or spindle type tracing devices can be used.
4. Ball-bearing mounted arms provide uniform, friction-free response to tracing device movement.
5. Centralized gas control unit for individual flame control saves operator's time.
6. Hose or cable lines can't snarl or pinch.

For further details write Department RA, New York Office for Catalog ADC-628—or ask your local Air Reduction office.

AIR REDUCTION

General Offices: 60 East 42nd Street, New York 17, N. Y.

In Texas: Magnolia Airco Gas Products Co. • General Offices - Houston 1, Texas

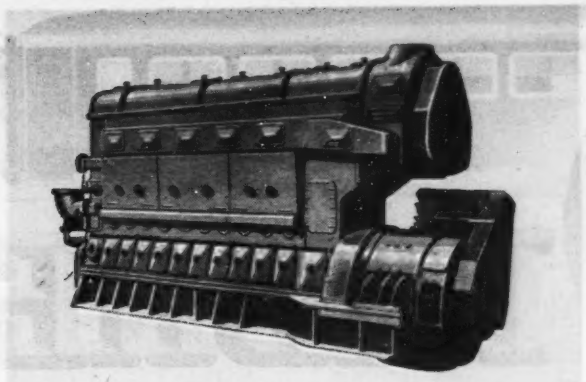
Offices in All Principal Cities

AIRCO

Gas Cutting Machines

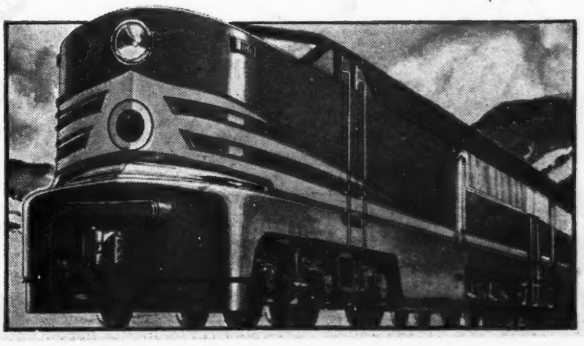
A Type and Size for Every Cutting Need

IDEAL TOOLS FOR SPEED, FLEXIBILITY AND ACCURACY IN METAL SHAPING



Tomorrow's power today! . . . It's the Opposed-Piston Diesel Locomotive by Fairbanks-Morse

A name worth



remembering

FABREEKA

For Passenger Comfort and Maintenance Reduction on New or Reconditioned Rolling Stock

FABREEKA in the trucks of passenger cars absorbs the high frequency vibration and noise which would otherwise be transmitted through the metal parts of the truck assembly to the car body. High frequency vibration and noise result from the impact shocks encountered in the operation of the car and the rolling of the wheels on the rail.

The absorption of this high frequency vibration, a primary cause of metal fatigue, reduces maintenance.

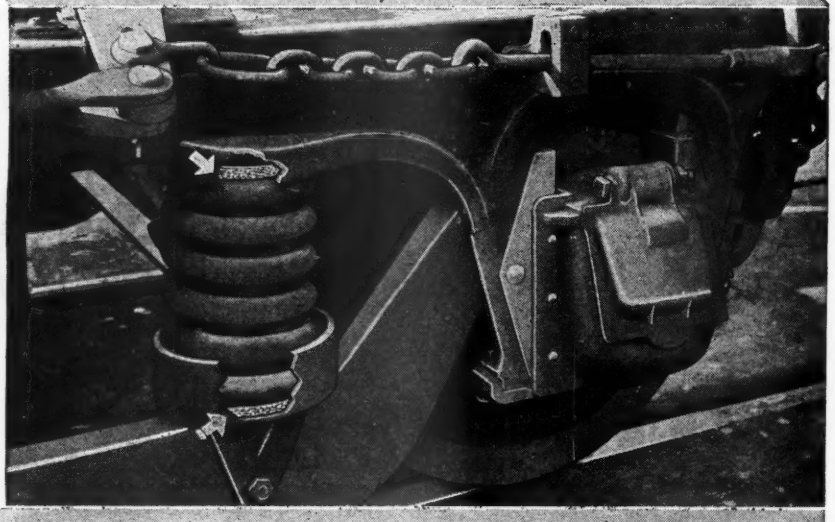
Thus FABREEKA serves the double purpose of increasing passenger riding comfort and decreasing operating costs.

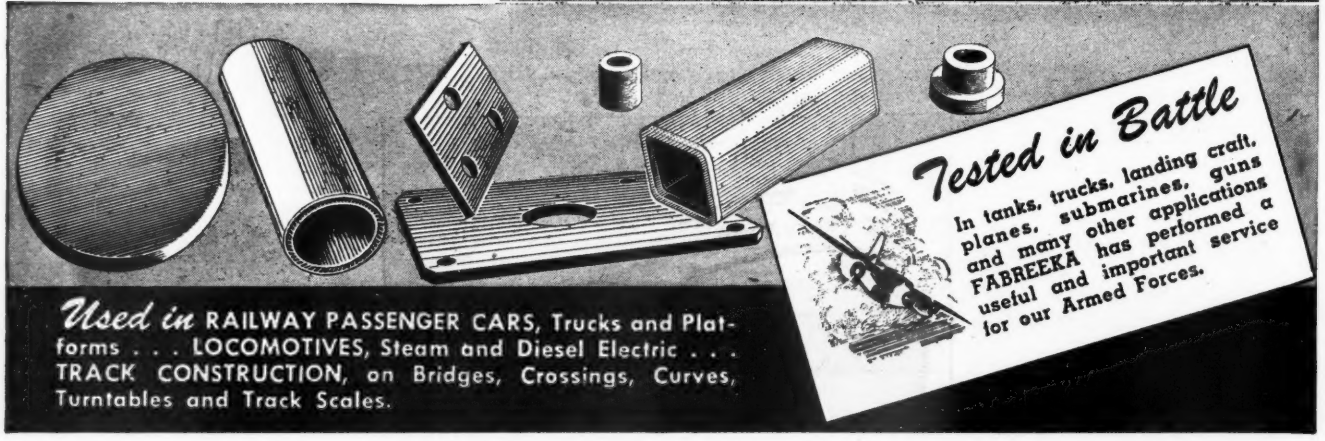
Proven in the railway field for over 10 years, experience shows that for satisfactory results FABREEKA should be used at these six important points:

★ 1. Coil Springs
2. Center Plates
3. Journal Boxes
4. Buffer Stems
5. Side Bearings
6. Swing Hanger Bearings (under spring plank)

★ COIL SPRING APPLICATION OF FABREEKA

FABREEKA PRODUCTS COMPANY, INCORPORATED
BOSTON 10, MASS.



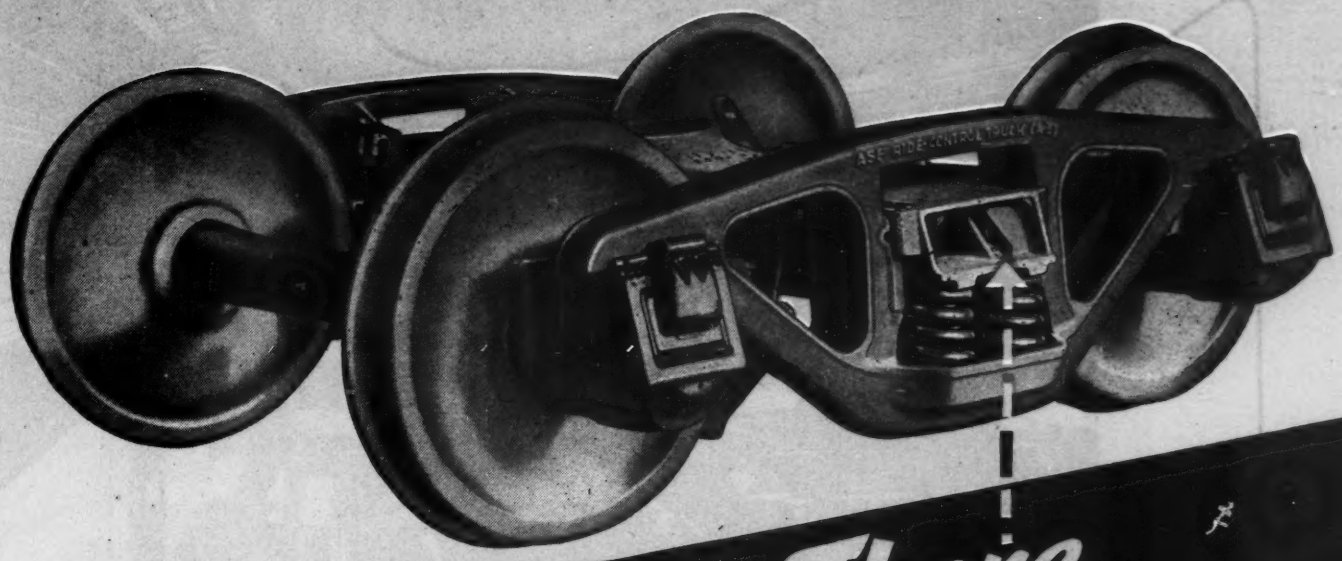


Tested in Battle

In tanks, trucks, landing craft, planes, submarines, guns and many other applications FABREEKA has performed a useful and important service for our Armed Forces.

Used in RAILWAY PASSENGER CARS, Trucks and Platforms . . . LOCOMOTIVES, Steam and Diesel Electric . . . TRACK CONSTRUCTION, on Bridges, Crossings, Curves, Turntables and Track Scales.

NO SPRING PLATES · NO SPRING PLANKS



IT GETS FREIGHT *There* WITH *Less* ROADBED WEAR!

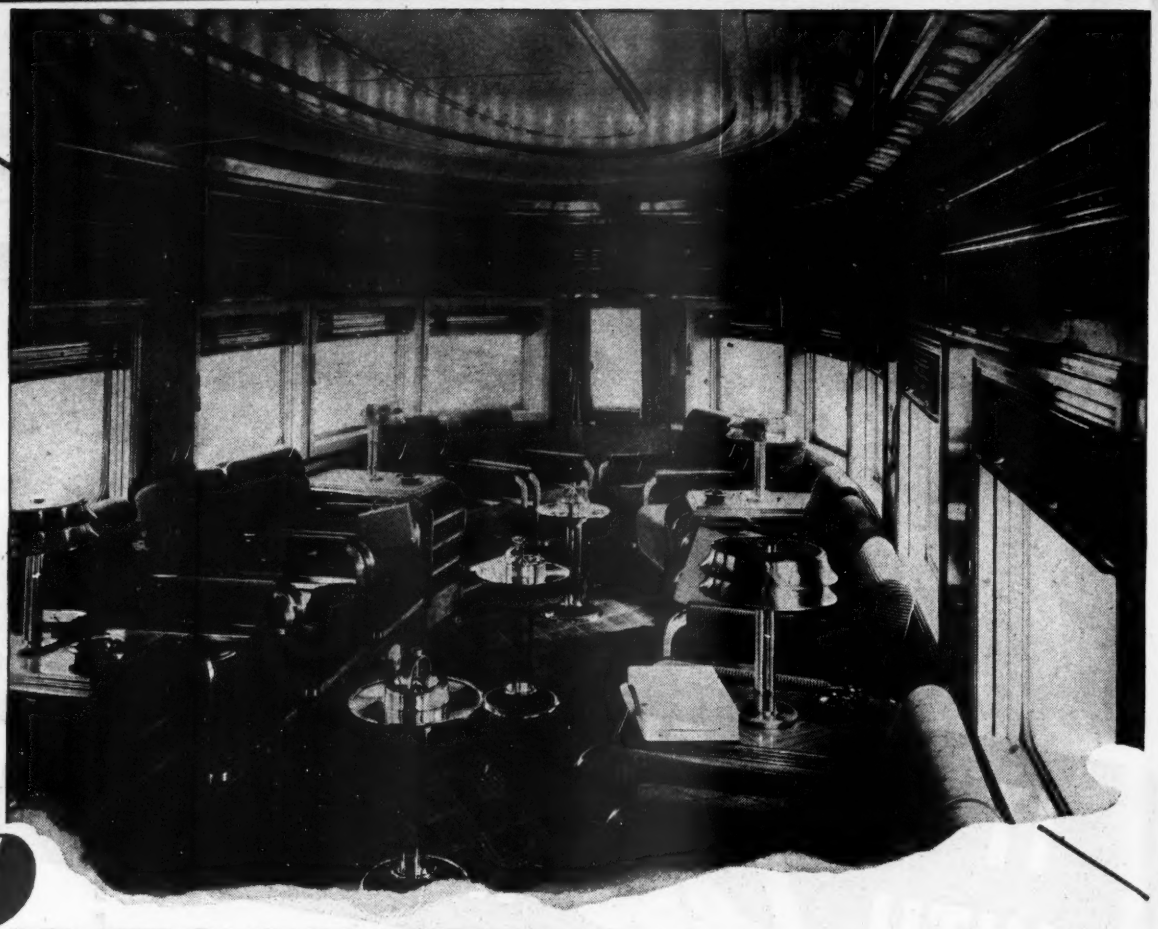
BECAUSE the A. S. F. Ride-Control Truck (A-3) prevents harmonic oscillation, no rhythmic pounding is transferred from rail to roadbed. And, since lateral truck motion is also controlled, cars ride evenly—without the swaying that otherwise exerts destructive pressures first on one side of the roadbed, then on the other. The Ride-Control Truck not only cushions the lading that it carries but does so without sacrifice of rail equipment or roadbed.

THE TRUCK FOR TODAY'S NEED-TOMORROW'S SPEED!

AMERICAN STEEL FOUNDRIES

CHICAGO

MINT-MARK OF FINE CAST STEEL



PRESSTITE Sealers and Adhesives Assure Better, More Economical Car Construction and Maintenance

There are many highly specialized Presstite Sealing Compounds that meet various railway construction and maintenance demands. Presstite sealers and adhesives are easy to apply, stand up under extremes of heat and cold and have been thoroughly proven in test and service.

A few of the many Presstite products for railway use include:

- **Presstico No. 500, Adhesive Felt Tape.**
  For anti-squeak uses and insulation between metals.
- **Presstico No. 504 and No. 505, Impregnated Adhesive Felt Packing.**
- **Presstico No. 23212 Extruded Glass Sealer Tape.**
  A better, long-lasting, flexible seal for car windows. In tape or ribbon form, in thicknesses and widths to meet your requirements.
- **Presstico Spot Weld Sealer.**
  Produced in flow-gun, brush, or spray types. Non-corrosive to metals and prevents rust. For tightly sealing any spot welded seam.
- **Presstico No. 2390 Asphalt Waterproofing Mastic.**
  For preventing rust and corrosion of railroad equipment.

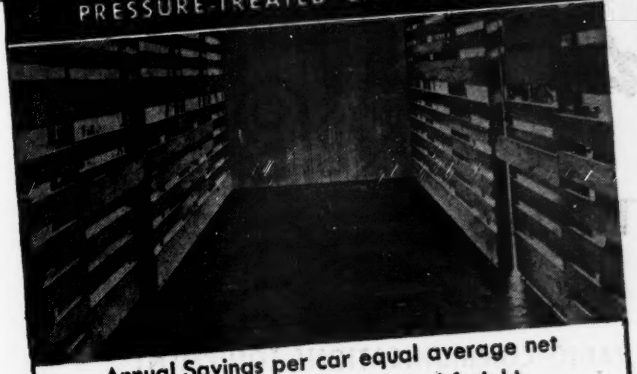
If you have a problem involving adhesive or sealing compounds for railway application, or if you are looking for an improved method of doing your present sealing jobs, send your requirements to Presstite. Our engineers will gladly work with you in producing the correct formula for your particular needs.

PRESSTITE
SEALING COMPOUNDS

PRESSTITE ENGINEERING COMPANY, [illegible] Ave., St. Louis 10, Missouri

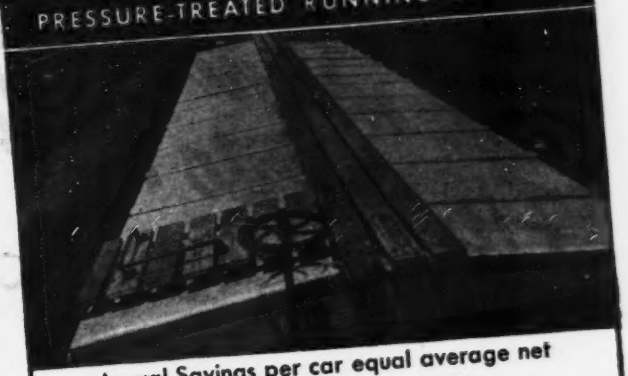
Look at the savings from a PROFIT angle—

PRESSURE-TREATED CAR DECKING



Annual Savings per car equal average net income* on 13,567 ton-miles of freight.

PRESSURE-TREATED RUNNING BOARDS

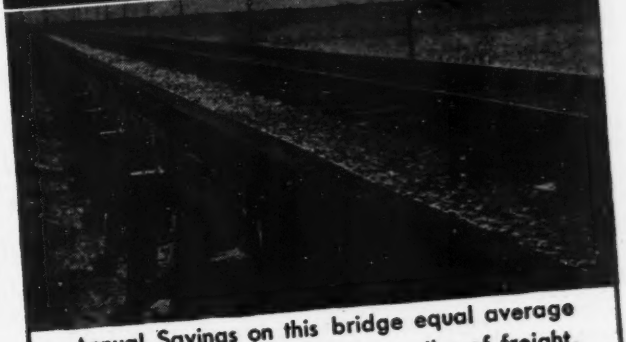


Annual Savings per car equal average net income* on 920 ton-miles of freight.

PRESSURE-TREATED TIES

Annual Savings per tie equal average net income* on 93 ton-miles of freight.

PRESSURE-TREATED BRIDGES



Annual Savings on this bridge equal average net income* on 1,167,728 ton-miles of freight.

you'll see why PRESSURE-TREATED WOOD pays dividends

*Net income and ton miles from 1942 ICC Statistics.

For many years, railroad rates have failed to keep pace with pyramiding railroad expenses; in the main, profits have been made by *cutting costs.* Pressure-treated wood has made a big contribution to these economies. On treated ties alone, authorities estimate the savings at $150,000,000 or more per year.

Pressure-treated wood offers a number of other opportunities for economies, and several are suggested above, where the annual costs of pressure-treated wood are contrasted with costs of other materials that are used . . . untreated wood in three of the cases given, and monolithic construction in the fourth. When you think of these savings in terms of the net income from freight haulage, it is easy to see how pressure-treated wood can help pay dividends.

Our bulletin, "Economical and Permanent Construction with Pressure-Treated Wood," illustrates and describes a large number of applications, and may give you some profitable tips. May we send you a copy?

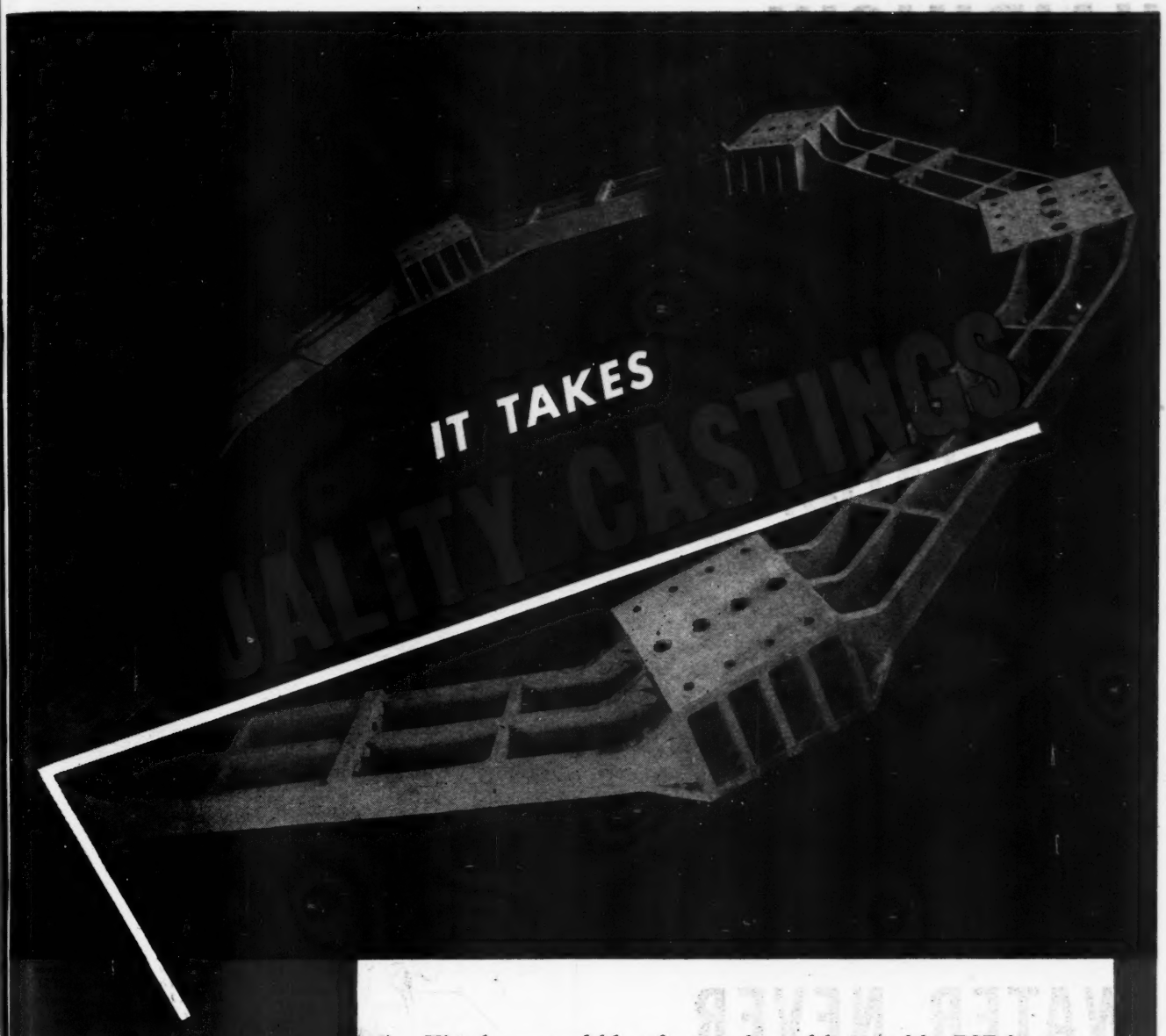
KOPPERS COMPANY, INC.—WOOD PRESERVING DIVISION

PITTSBURGH 19, PA.

KOPPERS

Buy War Bonds—
and Keep Them!

THE INDUSTRY THAT SERVES ALL INDUSTRY



This hexagonal blast furnace base, fabricated by PSF from accurately cast and machined sections, is not only a good example of quality work—it also illustrates the basically vital role that castings play in heavy machinery and equipment generally. They *must* be dependable—uniform in texture, sound and strong—correct to the "specs" in every detail. That's the way PSF's highly modern methods and facilities are set up to produce them for you—on special or production jobs—in carbon or alloy steels.

46 YEARS OF STEEL CASTING KNOWLEDGE

Pittsburgh STEEL FOUNDRY CORPORATION

GLASSPORT, PA.

Sales Offices: NEW YORK • PHILADELPHIA • WASHINGTON AND CHICAGO

HAIRINSUL IS PERMANENT INSULATION

WATER NEVER HURTS IT!

Washing of cars is harmless to the insulation if it's HAIRINSUL . . . because water never hurts it!

Refrigerator car insulation often gets wet from melting ice or washing, but don't worry if your cars are lined with HAIRINSUL . . . the superior HAIR FELT insulation that dries out good-as-new . . . never rots, never deteriorates, always keeps its original *ice-saving* efficiency.

In every way, HAIRINSUL is a permanent investment. It never separates, pulverizes or develops ice-wasting gaps that need repacking . . . it's all-hair in reinforced blanket form . . . flexible and easy to install in new or rebuilt cars, and economical to use time and again as older cars wear out. Write today for samples and engineering data.

Hair Is Nature's Own Insulation...

It's nature's protective covering for animal life...it's a barrier against extreme outside temperature changes. HAIRINSUL is made of animal hair...one of the best reasons why HAIRINSUL is accepted as the finest of all insulating materials for refrigerator cars.

AMERICAN HAIR & FELT COMPANY
DEPT. C-1, MERCHANDISE MART, CHICAGO 54

Hairinsul

ALL HAIR INSULATION FOR REFRIGERATOR CARS

YOU DECORATE FOR *Good*

WHEN YOU DECORATE WITH *Wood*

The New York, New Haven and Hartford station in Providence, R. I., is an example of the harmonious results obtained by working with Flexwood and Weldwood Hardwood Plywood in combination.

Lurelle Guild was the designer, and the installation of Weldwood 13/16" plain sliced walnut plywood was made by the Modern Store Fixture Co., Providence. Edwin H. Powell & Co., Boston, installed the flat cut walnut Flexwood.

lywood is the modern way of using ood for structural and decorative urposes.

nd Weldwood is plywood at its best.

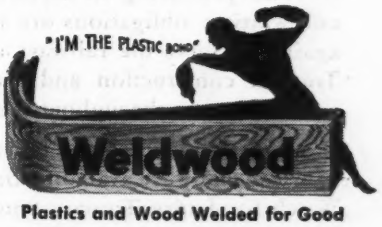
s warm, lasting beauty reflects the xury of the finest decorative woods . . at a cost so moderate, and with in- allation and structural advantages so reat, that it has earned the right of way or redecoration on leading railroads.

Use Weldwood Hardwood Panels for the flat surfaces, and for construction.

Use Flexwood . . . the wood that bends . . . on curved surfaces and over existing smooth surfaces. Matching them, in combination, gives a beautiful, modern effect . . . in mahogany, walnut, oak and other fine hardwoods.

Remember this, too: *Weldwood Plywood Panels are crackproof, and guaranteed for the life of any structure in which they are used.*

Don't fail to take advantage of the striking beauty and superior structural characteristics of these Weldwood Products. For more information write us.



Plastics and Wood Welded for Good

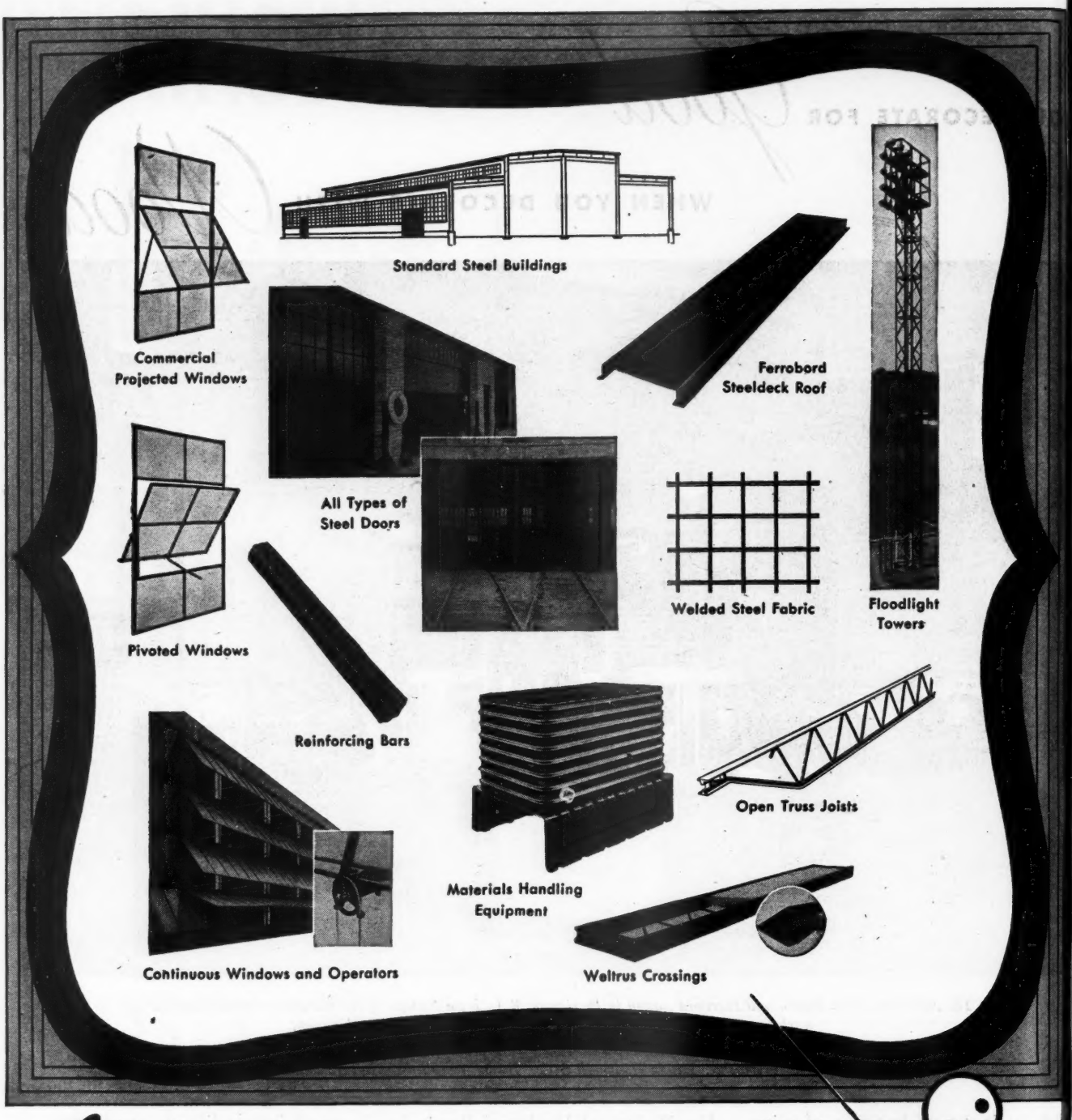
WELDWOOD Plywood

Weldwood Plywood and Plywood Products are manufactured and marketed by

UNITED STATES PLYWOOD CORPORATION
New York, N. Y.

tributing units in Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Detroit, High Point, Los Angeles, ewark, New York, Oakland, Philadelphia, Rochester, San Francisco, Seattle. Also U.S.-Mengel Plywoods, Inc., distributing units at Atlanta, Jacksonville, Louisville, New Orleans. Send inquiries to nearest point.

Waterproof Weldwood, so marked, is bonded with phenol formaldehyde synthetic resin. Other types of water-resistant Weldwood are manufactured with extended urea resins and other approved bonding agents.

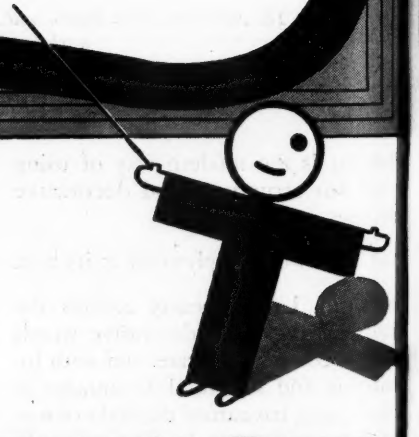


Announcing . . .

TRUSCON RECONVERSION PLANS

These are the Truscon Steel Building Products we will start producing on Reconversion Day . . . when our wartime obligations are fulfilled . . . and we again can serve the railways of America with the Truscon construction and maintenance products so well-known throughout the industry.

Truscon Reinforcing Steel Bars and Welded Steel Fabric actually are available for your use right now. Watch for future Truscon announcements . . . and keep in touch with your Truscon representative . . . for details of Truscon Steel Products that we hope will be given an official production O.K. in the near future.



TRUSCON Steel Company

YOUNGSTOWN 1, OHIO

Subsidiary of Republic Steel Corporation

Lighter

Stronger

There is no safer brake beam suspension than Schaefer loop brake beam hangers

Better

STANDARD ON MOST ROADS

Schaefer Light Weight Design Insures more than Car Life

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.

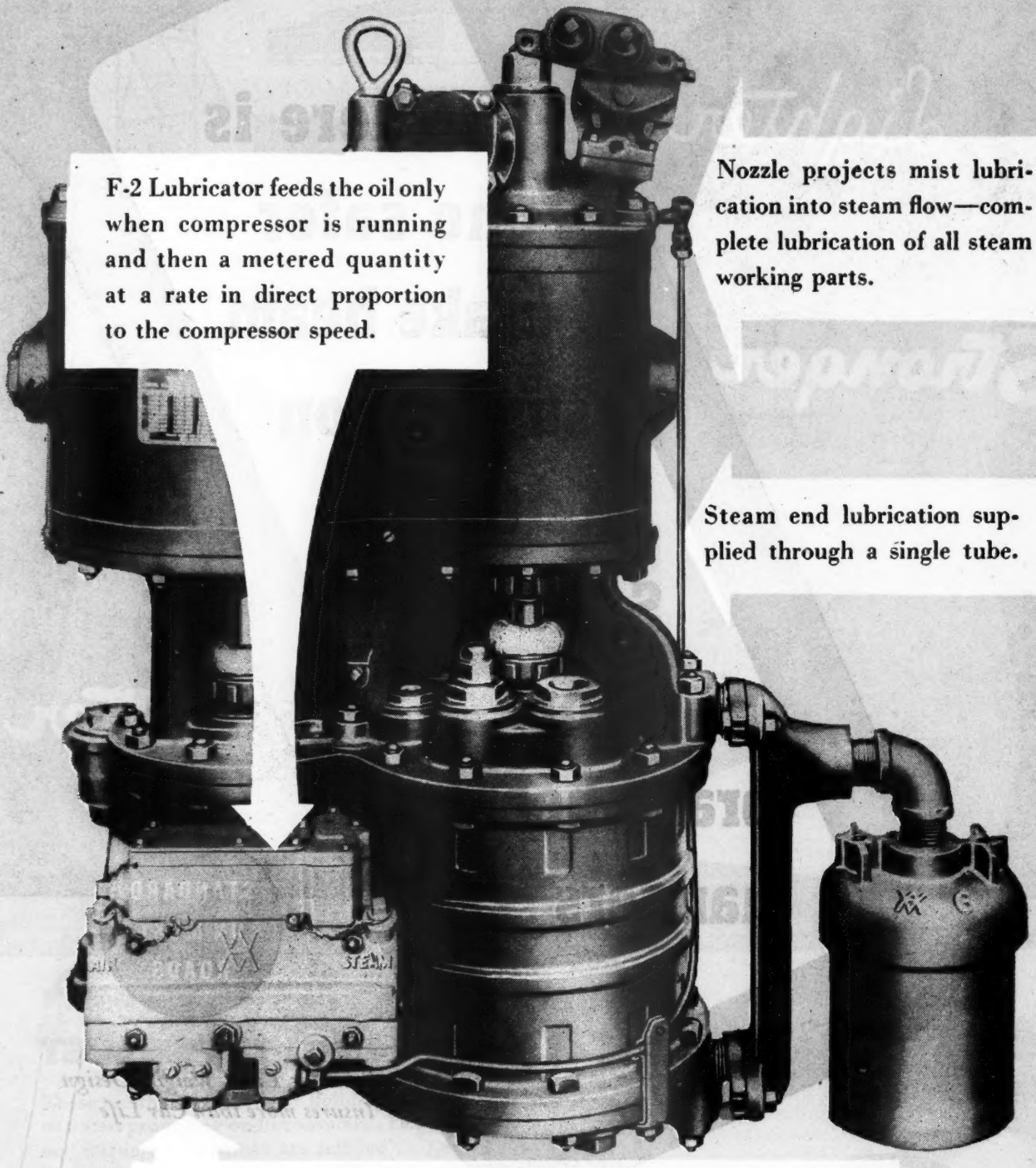
DROP-FORGED FOR LIGHT WEIGHT, HIGH STRENGTH, LONG LIFE AND SAFETY

Controlled Compressor Lubrication *by* "F-2" Lubricator

F-2 Lubricator feeds the oil only when compressor is running and then a metered quantity at a rate in direct proportion to the compressor speed.

Nozzle projects mist lubrication into steam flow—complete lubrication of all steam working parts.

Steam end lubrication supplied through a single tube.



F-2 Lubricator Mounted on Pads on the Air Cylinders. Air cylinders lubricated through feed ports in mounting pads.

Westinghouse Air Brake Company

Wilmerding, Pa.